Ten ee Department of Environment and Cons tion,
Division of Water Pollution Control
401 Church Street, 6th Floor L & C Annex, Nashville, TN 37243
(615) 532-0625

ENTERED ON: 9/30/2010 BY: MEB

CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) STATE OPERATING PERMIT (SOP) APPLICATION

Type of permit you are requesting: ☐ SOPCD0000 (designed to discharge) ☒ SOPC00000 (no discharge) ☐ Unknown, please advise

Application type: ☒ New Permit ☐ Permit Reissuance ☐ Permit Modification

If this NOI is submitted for Permit Modification or Reissuance provide the existing permit tracking number: ____

OPERATION IDENTIFICATION

Operation Name: **Ted Cope**		County:	**Hawkins**
Operation Location/ Physical Address:	**981 Stanley Valley Rd Rogersville Tn 37857**	Latitude:	**36°28'48.88" N**
		Longitude:	**82°56'47.09" W**

Name and distance to nearest receiving water(s): **.5 miles Big Creek**

If any other State or Federal Water/Wastewater Permits have been obtained for this site, list those permit numbers:
None

Animal Type: ☒ Poultry ☐ Swine ☐ Dairy ☐ Beef ☐ Other ____

Number of Animals: 92000	Number of Barns: 4	Name of Integrator: Koch Foods

Type of Animal Waste Management: (check all that apply)
☒ Dry
☐ Liquid
☐ Liquid, Closed System (i.e. covered tank, under barn pit, etc.)

Attach the NMP ☒ NMP Attached	Attach the closure plan ☒ Closure Plan Attached	Attach a topographic map ☒ Map Attached

PERMITTEE IDENTIFICATION

Official Contact (applicant): **TEd Cope**	Title or Position: **Owner**			
Mailing Address: **981 Stanley Valley Rd**	City: Rogersville	State: **Tn**	Zip: **37857**	☒ Correspondence ☒ Invoice
Phone number(s): **(423) 272-9428**	E-mail:			
Optional Contact:	Title or Position:			
Address:	City:	State:	Zip:	☐ Correspondence ☐ Invoice
Phone number(s):	E-mail:			

APPLICATION CERTIFICATION AND SIGNATURE (must be signed in accordance with the requirements of Rule 1200-4-5-.05)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and title; print or type	Signature	Date
	Ted Cope	6-23-10

STATE USE ONLY

Received Date	Reviewer	EFO	T & E Aquatic Fauna	Tracking No.
RECEIVED JUL 27 2010 Permit Section	EEO	Johnson City	JUL 02 2010	SOPC0005

TENNESSEE DEPARTMENT OF AGRICULTURE

Water Resources Program

The following individual has submitted all required elements of an NMP/CNMP as required to obtain a CAFO permit. Their Nutrient Management Plan (or CNMP) has been reviewed and approved by this office.

Name of Owner/Operator: Ted Cope

Operation Name: Cope Poultry

Address of Operation: 981 Stanley Valley Rd. Rogersville, TN 37857

Phone Number: (423) 272-9428 County: Hawkins

Date application was initiated:

RECEIVED
MAY 28 2010

Date approval forwarded to TDEC:

JUL 20 2010

NMP/CNMP Approval Date:

THE APPROVAL SHALL NOT BE CONSTRUED AS CREATING APRESUMPTION OF CORRECT
JUL 19 2010
OPERATION OR AS WARRANTING THAT THE APPROVED FACILITIES WILL REACH THE DESIGNED GOALS

Date approval received by TDEC

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JUL 27 2010
Permit Section

TDA Reviewer's Name: Sam Marshall

TDA Reviewer's Signature: Sam Marshall July 19, 2010
Date

1- Cope

Nutrient Management Plan Requirements

The following 9 items need to be submitted at the time the permit is applied for. Additional record-keeping items as outlined in the CAFO rules are also considered part of the nutrient management plan and must be kept on-site. More information on each item can be found in the CAFO rule (1200-4-5-.14).

☑ 1. **Two maps: (1.)** A map of your farm showing location of any animal barns/houses, compost bins, litter storage bins, manure lagoons/holding ponds, nearby roads, fields to which litter/manure will be applied, and non-application buffer areas around any bodies of water (streams, creeks, rivers, ponds, wells, sinkholes, springs, wetlands, etc.). A hand-drawn map is acceptable and even preferred. **(2.)** A topographic map of the farm (1:24000 scale, showing 1-mile radius from farm) showing property lines.

☑ 2. **Nutrient budget** – this is basically a balance sheet of all manure produced on the farm and all manure spread on the farm or removed from the farm. Application rates for all fields should be based on crop needs, realistic crop yield expectations, and actual manure analyses of nutrient content.

☑ 3. **Soil test results** for phosphorus and potassium for each application field. These must be taken at a minimum of every five years.

☑ 4. Results of **manure analysis** from within the past year. Annual manure testing is a requirement for all CAFOs. These results must be included with initial permit application if the farm is in operation. If the farm that is applying for the permit is new and not yet operating, then manure testing results need to be obtained once operation begins. At that point, the manure test results and revised application rates need to be submitted to TDA. Manure test results in subsequent years need to be kept as part of your record-keeping activities.

☑ 5. Results of the **Phosphorus Index** applied to each field that has a soil test P value of "High" or "Very High". In those situations, this tool will determine whether your application rates will be based on nitrogen or phosphorus.

☑ 6. Statement regarding method of **dead animal disposal**.

☑ 7. **Closure Plan** to be implemented in the event animal production ceases on the site.

These last two items are only required for medium-size CAFOs that manage **liquid manure**.

NA 8. Documentation of **design of liquid waste handling system**. This should include, but is not limited to: volume for solids accumulation, design treatment volume, total design volume, the approximate number of days of storage capacity, pumping and routing of wastes, and any solid separation process. Ideally, this documentation would consist of the pertinent engineering drawings with accompanying descriptive narrative.

NA 9. The construction, modification, repair, or installation of any portion of a CAFO liquid waste handling system (such as earthen holding pond, treatment lagoon, pit, sump or other earthen storage/containment structure) after April 13, 2006 must be preceded by a thorough **subsurface investigation**. This investigation will include a detailed soils investigation with special attention to the water table depth and seepage potential.

In addition to the items above, the following form(s) must accompany your application:

☑ ***Notice of Intent* form** must be submitted with all applications from Class II (Medium) CAFOs

OR

NA ☐ **EPA Forms 1 and 2B** must be submitted with all applications from Class I (Large) CAFOs

☑ **Addendum to Nutrient Management Plan**.

Addendum to Nutrient Management Plan:

By approval of this plan, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO rule (1200-4-5-.14) that apply to my CAFO operation.

1. All clean water (including rainfall) is diverted, as appropriate, from the production area.
2. All animals in confinement are prevented from coming in direct contact with waters of the state.
3. All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
4. All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
5. All records outlined in 1200-4-5-.14(16) d-f will be maintained and available on-site.
6. Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed after April 13, 2006 are or will be located in accordance with NRCS Conservation Practice Standard 313.
7. Drystacks of manure or stockpiles of litter are always kept covered under roof or tarps.
8. An *Annual Report* will be written for my operation and submitted between January 1 and February 15 of each year. It will include all information required by rule [1200-4-5-.14(16)g].

Signature: Ted Cope Date: 6-23-10
Name:

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JUL 14 2010

Comprehensive Nutrient Management Plan

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the animal feeding operation. It includes background information and provides guidance, reference information and Web-based sites where up-to-date information can be obtained. Refer to the Producer Activity document for information about day-to-day management activities and recordkeeping. Both this document and the Producer Activity document shall remain in the possession of the producer/landowner.

Farm contact information: Ted Cope
981 Stanley Valley Rd
Rogersville Tn 37857
(423) 272-9428

Latitude/Longitude: Lat 36°28'48.88"N Long 82°56'47.09"W

Plan Period: Jun 2010 - May 2015

Conservation Planner

As a Conservation Planner, I certify that I have reviewed both the *Comprehensive Nutrient Management Plan* and *Producer Nutrient Management Activities* documents for technical adequacy and that the elements of the documents are technically compatible, reasonable and can be implemented.

Signature: John Donaldson Date: 5/28/10
Name: John Donaldson
Title: Certification Credentials: TN- 1352

Owner/Operator

As the owner/operator of this CNMP, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all the necessary records associated with the implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature: Ted Cope Date: 6-1-10
Name: Ted Cope

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JUL 27 2010
Permit Section

RECEIVED
JUN 10 2010

Section 2. Manure and Wastewater Handling and Storage

Signature: _____ Date: 5/28/10
Name: John Donaldson
Title: Certification Credentials: TN-1352

Sections 4. Land Treatment

Signature: _____ Date: 5/28/10
Name: John Donaldson
Title: Certification Credentials: TN-1352

Section 6. Nutrient Management

The Nutrient Management component of this plan meets the Tennessee Nutrient Management 590 and Waste Utilization 633 Conservation Practice Standards.

Signature: _____ Date: 5/28/10
Name: John Donaldson
Title: Certification Credentials:TN-1352

:

Addendum to Nutrient Management Plan:

By approval of this plan, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO rule (1200-4-5-.14) that apply to my CAFO operation.

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5. All records outlined in 1200-4-5-.14(16) d-f will be maintained and available on-site.
6. Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed after April 13, 2006 are or will be located in accordance with NRCS Conservation Practice Standard 313.
7. Drystacks of manure or stockpiles of litter are always kept covered under roof or tarps.
8. An *Annual Report* will be written for my operation and submitted between January 1 and February 15 of each year. It will include all information required by rule [1200-4-5-.14(16)g].

Signature: Ted Cope Date: 6-1-10
Name: Ted Cope
Title: Owner

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Permit Section

JUN 10 2010

Comprehensive Nutrient Management Plan

Validus Services, LLC
P.O. Box 14586
Des Moines, IA 50306
515-278-8002

Prepared by: John Donaldson and Mark Berkland

Comprehensive Nutrient Management Plan

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the animal feeding operation. It includes background information and provides guidance, reference information and Web-based sites where up-to-date information can be obtained. Refer to the Producer Activity document for information about day-to-day management activities and recordkeeping. Both this document and the Producer Activity document shall remain in the possession of the producer/landowner.

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Plan Period: Jun 2010 - May 2015

Conservation Planner

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Title: Certification Credentials: TN- 1352

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Signature: _____ Date: _____
Name: Ted Cope

Section 2. Manure and Wastewater Handling and Storage

Signature: _____ Date: _____
Name: John Donaldson
Title: Certification Credentials: TN-1352

Sections 4. Land Treatment

Signature: _____ Date: _____
Name: John Donaldson
Title: Certification Credentials: TN-1352

Section 6. Nutrient Management

The Nutrient Management component of this plan meets the Tennessee Nutrient Management 590 and Waste Utilization 633 Conservation Practice Standards.

Signature: _____ Date: _____
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8. An *Annual Report* will be written for my operation and submitted between January 1 and February 15 of each year. It will include all information required by rule [1200-4-5-.14(16)g].

Signature: _____ Date: _____
Name: Ted Cope
Title: Owner

Table of Contents

Section 1. Background and Site Information

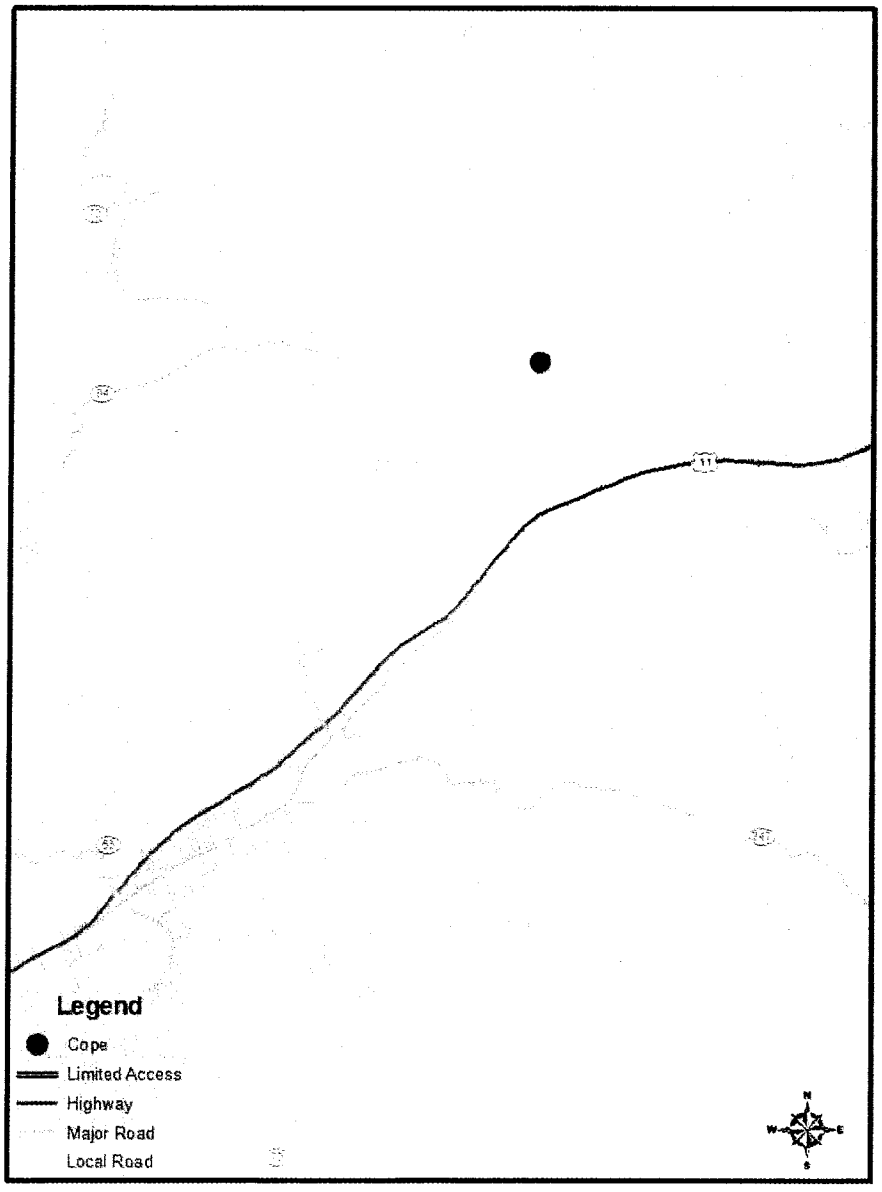
1.1. General Description of Operation

A Comprehensive Nutrient Management Plan (CNMP) is a conservation plan that is unique to animal feeding operations. This CNMP incorporates conservation practices and management activities which, when combined into a system, will help ensure that both agriculture production goals and natural resources protection goals are achieved. This CNMP addresses natural resource concerns dealing with soil erosion, manure, and organic byproducts, and their potential impacts on water quality, which may derive from an animal feeding operation (AFO). This CNMP is developed to assist an AFO owner/operator in meeting all applicable management activities and conservation practices which may be required to meet local, tribal, State, or Federal water quality goals, or regulations.

County: Hawkins
Staye: Tennessee

Ted Cope Location

Date: 5/25/2010



Lat /Long 36°28'48.88"N/ 82°56'47.09"W

Validus

0 4,550 9,100 18,200 Feet

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MAY 28 2010

1.1. General Description of Operation

Ted Cope has a poultry operation located in Hawkins County, Tennessee. The operation consists of four (4) broiler houses. Each broiler house contains 23,000 birds for a total of 92,000 birds at one time. Cake is removed between each flock for a total of approximately 15 tons being removed and stored in a dry stack. Houses are totally cleaned once each year. Poultry litter is applied to hay and crop fields at the crop removal rate for phosphorus with the excess being exported.

1.2. Sampling, Calibration and Other Statements

Manure sampling frequency:
Manure samples will be taken in the fall prior to spring application of manure.

Soil testing frequency:
Soil tests will be renewed every three years with a composite sample from each field which is correlated to fields identified in this plan.

Equipment calibration method and frequency:
Application equipment will be calibrated and this calibration is documented annually.

Manure applications:
All poultry manure will be surface applied in the spring and fall at phosphorus crop removal rates.

Manure applications in this plan are based on MWPS 2004 data. Manure analysis will be required annually after implementation of this plan and will follow the University of Tennessee Extension Service standard operating procedures for manure sampling.

Critical Use Areas:
Vegetation establishment is required around the buildings and storage structures to reduce soil erosion, this offsite nutrient and pathogen transport.

All disturbed areas, including slopes of pads, will be planted to permanent vegetation. If construction is during seasons not suited for planting warm or cool season grasses, temporary vegetation will be established until permanent vegetation can be established. Refer to Application and Maintenance of Conservation Practices and specifically NRCS practice standard 342-Critical Area Treatment for guidance.

All conservation practices and management activities planned and implemented as part of this CNMP should meet NRCS technical standards. For those elements, for which NRCS does not maintain technical standards, the criteria established by Land Grant Universities, industry, or other technically qualified entities will be met.

Veterinary Waste Management:
All veterinary waste will be either disposed of through an approved land fill and sharps containers or by the attending veterinarian.

Revision Trigger:
This nutrient management plan shall be reviewed when the results of soil tests are received to insure manure application rates are appropriate. This plan must be re-certified at least every five years.

Modifications of the CNMP will require re-certification whenever there are substantial changes made to the animal or crop operations. Substantial changes are defined as a change in crop sequence that would not allow allocation of the nutrients using Manure Management Planner (MMP) or equivalent method, change in manure application area size greater than 15% or change in livestock numbers by greater than 10%.

CNMP Lifespan:
This nutrient management plan shall be reviewed when the results of soil tests are received to insure manure application rates are appropriate. This plan must be re-certified at least every five years. Updates of this CNMP will require re-certification whenever there are substantial changes made to the animal or crop operations. This plan will be amended when required by the permit.

1.3. Resource Concerns

If checked, the indicated resource concerns have been identified and have been addressed in this plan.

Soil Quality Concerns

	Soil Quality Concern	*Fields*
X	Sheet and Rill Erosion	All Fields

Soil erosion will be addressed by maintaining permanent fescue in all hay fields and no-tilling the corn/tobacco rotation. A winter cover crop will be seeded immediately following harvest of tobacco.

Water Quality Concerns

	Water Quality Concern	*Fields*
A	Manure Runoff (Field Application)	All Fields
B	Manure Runoff (From Facilities)	Production Area
C	Nutrients in Groundwater	All Fields
D	Nutrients in Surface Water	All Fields

Water Quality concerns will be addressed by the following practices:
Waste storage will be enhanced in Production Area (Concern B)
Setbacks and enhanced nutrient management in all fields (Concerns A, C, D)

Other Concerns Addressed

	Other Concern	*Fields*
A	Aesthetics	Production Area
B	Maximize Nutrient Utilization	All
C	Minimize Nutrient Costs	All

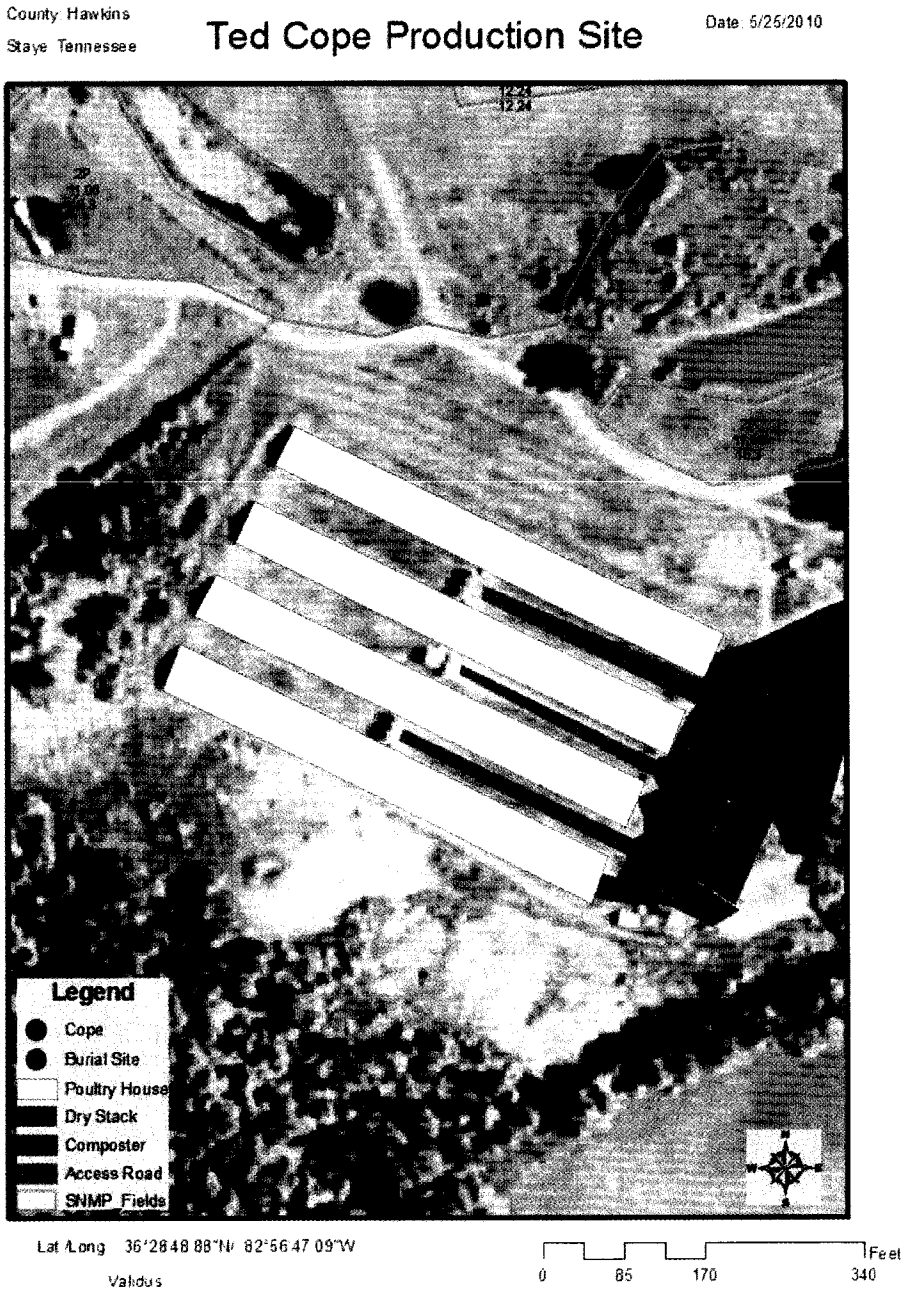
Maintenance and proper operation of the production area will address Concern A.
Manure and nutrients applied according to this plan will resolve concerns B and C above.

Section 2. Manure and Wastewater Handling and Storage

This element addresses the components and activities, existing and planned, associated with the production facility, feedlot, manure and wastewater storage, treatment structures and areas, and any area used to facilitate transfer of manure and wastewater.

The following sub-sections refer to all works of improvement addressed in this plan and include specifications addressing storage, collection, transfer, and application functions. Poultry waste storage will consists of a dry stack facility. Manure transfer will be facilitated by the use of front loader or scraper. Poultry houses will be cleaned out between flocks.

2.1. Map(s) of Production Area



2.2. Production Area Conservation Practices

Waste Storage Facility (313)
This facility will serve as temporary storage for manure produced by cake removal between flocks and total house cleanout. The manure will be removed during both spring and fall periods.

Tract/Field	Planned amount (No)	Month	Year	Amount Applied	Date
Production Area	1		Existing		
Total	1				

Roof Runoff (558)

Collect and remove roof runoff from within a contaminated waste stream.

Tract/Field	Planned amount (No)	Month	Year	Amount Applied	Date
Production Area	1		2010	Existing	Prior
Total	**1**				

Animal Mortality Management (316)

Composting will be used to manage normal poultry mortalities. Burial will be used for normal beef mortalities. Rendering will be used for catastrophic poultry and beef mortalities. Collect dead animals as discovered and move to a collection point for pick-up. In the event of catastrophic die-off, refer Mortality Management Information in the Operation and Maintenance Section in this document.

Tract/Field	Planned amount (No)	Month	Year	Amount Applied	Date
Production Area Composter	1	08	2010	Existing	
Production Area Burial site	2	08	2010		
Total	**3**				

2.3. Manure Storage

Storage ID	Type of Storage	Pumpable or Spreadable Capacity	Annual Manure Collected	Maximum Days of Storage
House 1	In-house litter storage	200 Tons	192 Tons	380
House 2	In-house litter storage	200 Tons	192 Tons	380
House 3	In-house litter storage	200 Tons	192 Tons	380
House 4	In-house litter storage	200 Tons	192 Tons	380
Dry Stack	Poultry manure dry stack	270 Tons	0 Tons	

2.4. Animal Inventory

Animal Group	Type or Production Phase	Number of Animals	Average Weight (Lbs)	Confinement Period	Manure Collected (%)	Storage Where Manure Will Be Stored
House 1	Broiler	23,000	2.2	Jan Early - Dec Late	100	House 1
House 2	Broiler	23,000	2.2	Jan Early - Dec Late	100	House 2
House 3	Broiler	23,000	2.2	Jan Early - Dec Late	100	House 3
House 4	Broiler	23,000	2.2	Jan Early - Dec Late	100	House 4

(1) Number of Animals is the average number of animals that are present in the production facility at any one time.
(2) If Manure Collected is less than 100%, this indicates that the animals spend a portion of the day outside of the production facility or that the production facility is unoccupied one or more times during the confinement period.

2.5. Normal Mortality Management

To decrease non-point source pollution of surface and ground water resources, reduce the impact of odors that result from improperly handled animal mortality, and decrease the likelihood of the spread of disease or other pathogens, approved handling and utilization methods shall be implemented in the handling of normal mortality losses. If on-farm storage or handling of animal mortality is done, NRCS Standard 316, Animal Mortality Facility, will be followed for proper management of dead animals.

Plan for Proper Management of Dead Animals

The following table describes how you plan to manage normal animal mortality in a manner that protects surface and ground water quality.

Composting will be used for normal poultry mortality.

COMPOSTING-- This operation will use composting as the primary mortality disposal method. All mortalities will be collected daily and composted.
For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

Recipe for composting broiler mortality

INGREDIENT	VOLUME	WEIGHTS
Straw	1.0	0.10
Carcasses	1.0	1.0
Litter	1.5	1.2
Water	0.5	0.75

Compost layering procedure

a. The first layer is one foot of litter.

b. A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe

c. A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls

will not compost properly.

d. Water is added (uniform spray).

e. Carcasses are covered with a 6-inch layer of litter.

f. Next layer of carcasses begun with carbon amendment and above steps repeated.

g. When composter is full, cap the 6-inch layer with four additional inches.

Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130 ° F shall be reached during the composting process. A temperature of 140 ° F is optimum; however, temperatures may range up to 160 ° F. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

After this first stage process, the material should be turned into a second bin and allowed to go through a second heat process. For larger birds, especially turkeys, a third turning may be necessary for complete degradation of the birds. Typically, the process can be considered "done" within 21-28 days from the time the compost is filled for broilers. For turkeys, the process usually requires about 60 days. After the heat process, curing period of one to three months is usually required before the material is stable.

Compost may be land applied after the secondary or tertiary composting. If any animal parts are still in the mix, the material must be incorporated. If immediate application is not possible the material should be stored using the same requirements as that of stored litter in the Stacking Shed O&M statement.

Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness. Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

The primary and secondary composters and the litter storage area should be protected from outside sources of water such as rain or surface runoff.

In order to assure desired operation of the composting facility, daily records should be kept during the first several compost batches. This can be helpful in identifying certain problems that may occur.

2.6. Planned Manure Exports off the Farm

Month-Year	Manure Source	Amount	Receiving Operation	Location
Apr 2011	Dry Stack	776 Tons	External Operation	External Operation
Apr 2012	Dry Stack	699 Tons	External Operation	External Operation
Apr 2013	Dry Stack	640 Tons	External Operation	External Operation
Apr 2014	Dry Stack	699 Tons	External Operation	External Operation
Apr 2015	Dry Stack	640 Tons	External Operation	External Operation

2.7. Planned Manure Imports onto the Farm

Month-Year	Manure's Animal Type	Amount	Originating Operation	Location

(None)

2.8. Planned Internal Transfers of Manure

Month-Year	Manure Source	Amount	Manure Destination
Jun 2010	House 1	15 Tons	Dry Stack
Jun 2010	House 2	15 Tons	Dry Stack
Jun 2010	House 3	15 Tons	Dry Stack
Jun 2010	House 4	15 Tons	Dry Stack
Aug 2010	House 1	15 Tons	Dry Stack
Aug 2010	House 2	15 Tons	Dry Stack
Aug 2010	House 3	15 Tons	Dry Stack
Aug 2010	House 4	15 Tons	Dry Stack
Oct 2010	House 1	15 Tons	Dry Stack
Oct 2010	House 2	15 Tons	Dry Stack
Oct 2010	House 3	15 Tons	Dry Stack
Oct 2010	House 4	15 Tons	Dry Stack
Dec 2010	House 1	15 Tons	Dry Stack
Dec 2010	House 2	15 Tons	Dry Stack
Dec 2010	House 3	15 Tons	Dry Stack
Dec 2010	House 4	15 Tons	Dry Stack
Feb 2011	House 1	15 Tons	Dry Stack
Feb 2011	House 2	15 Tons	Dry Stack
Feb 2011	House 3	15 Tons	Dry Stack
Feb 2011	House 4	15 Tons	Dry Stack
Apr 2011	House 1	151 Tons	Dry Stack
Apr 2011	House 2	151 Tons	Dry Stack
Apr 2011	House 3	151 Tons	Dry Stack
Apr 2011	House 4	151 Tons	Dry Stack
Jun 2011	House 1	15 Tons	Dry Stack
Jun 2011	House 2	15 Tons	Dry Stack

Month-Year	Manure Source	Amount	Manure Destination
Jun 2011	House 3	15 Tons	Dry Stack
Jun 2011	House 4	15 Tons	Dry Stack
Aug 2011	House 1	15 Tons	Dry Stack
Aug 2011	House 2	15 Tons	Dry Stack
Aug 2011	House 3	15 Tons	Dry Stack
Aug 2011	House 4	15 Tons	Dry Stack
Oct 2011	House 1	15 Tons	Dry Stack
Oct 2011	House 2	15 Tons	Dry Stack
Oct 2011	House 3	15 Tons	Dry Stack
Oct 2011	House 4	15 Tons	Dry Stack
Dec 2011	House 1	15 Tons	Dry Stack
Dec 2011	House 2	15 Tons	Dry Stack
Dec 2011	House 3	15 Tons	Dry Stack
Dec 2011	House 4	15 Tons	Dry Stack
Feb 2012	House 1	15 Tons	Dry Stack
Feb 2012	House 2	15 Tons	Dry Stack
Feb 2012	House 3	15 Tons	Dry Stack
Feb 2012	House 4	15 Tons	Dry Stack
Apr 2012	House 1	117 Tons	Dry Stack
Apr 2012	House 2	117 Tons	Dry Stack
Apr 2012	House 3	117 Tons	Dry Stack
Apr 2012	House 4	117 Tons	Dry Stack
Jun 2012	House 1	15 Tons	Dry Stack
Jun 2012	House 2	15 Tons	Dry Stack
Jun 2012	House 3	15 Tons	Dry Stack
Jun 2012	House 4	15 Tons	Dry Stack
Aug 2012	House 1	15 Tons	Dry Stack
Aug 2012	House 2	15 Tons	Dry Stack
Aug 2012	House 3	15 Tons	Dry Stack
Aug 2012	House 4	15 Tons	Dry Stack
Oct 2012	House 1	15 Tons	Dry Stack
Oct 2012	House 2	15 Tons	Dry Stack
Oct 2012	House 3	15 Tons	Dry Stack
Oct 2012	House 4	15 Tons	Dry Stack
Dec 2012	House 1	15 Tons	Dry Stack
Dec 2012	House 2	15 Tons	Dry Stack
Dec 2012	House 3	15 Tons	Dry Stack
Dec 2012	House 4	15 Tons	Dry Stack
Feb 2013	House 1	15 Tons	Dry Stack
Feb 2013	House 2	15 Tons	Dry Stack
Feb 2013	House 3	15 Tons	Dry Stack
Feb 2013	House 4	15 Tons	Dry Stack
Apr 2013	House 1	117 Tons	Dry Stack

Month-Year	Manure Source	Amount	Manure Destination
Apr 2013	House 2	117 Tons	Dry Stack
Apr 2013	House 3	117 Tons	Dry Stack
Apr 2013	House 4	117 Tons	Dry Stack
Jun 2013	House 1	15 Tons	Dry Stack
Jun 2013	House 2	15 Tons	Dry Stack
Jun 2013	House 3	15 Tons	Dry Stack
Jun 2013	House 4	15 Tons	Dry Stack
Aug 2013	House 1	15 Tons	Dry Stack
Aug 2013	House 2	15 Tons	Dry Stack
Aug 2013	House 3	15 Tons	Dry Stack
Aug 2013	House 4	15 Tons	Dry Stack
Oct 2013	House 1	15 Tons	Dry Stack
Oct 2013	House 2	15 Tons	Dry Stack
Oct 2013	House 3	15 Tons	Dry Stack
Oct 2013	House 4	15 Tons	Dry Stack
Dec 2013	House 1	15 Tons	Dry Stack
Dec 2013	House 2	15 Tons	Dry Stack
Dec 2013	House 3	15 Tons	Dry Stack
Dec 2013	House 4	15 Tons	Dry Stack
Feb 2014	House 1	15 Tons	Dry Stack
Feb 2014	House 2	15 Tons	Dry Stack
Feb 2014	House 3	15 Tons	Dry Stack
Feb 2014	House 4	15 Tons	Dry Stack
Apr 2014	House 1	117 Tons	Dry Stack
Apr 2014	House 2	117 Tons	Dry Stack
Apr 2014	House 3	117 Tons	Dry Stack
Apr 2014	House 4	117 Tons	Dry Stack
Jun 2014	House 1	15 Tons	Dry Stack
Jun 2014	House 2	15 Tons	Dry Stack
Jun 2014	House 3	15 Tons	Dry Stack
Jun 2014	House 4	15 Tons	Dry Stack
Aug 2014	House 1	15 Tons	Dry Stack
Aug 2014	House 2	15 Tons	Dry Stack
Aug 2014	House 3	15 Tons	Dry Stack
Aug 2014	House 4	15 Tons	Dry Stack
Oct 2014	House 1	15 Tons	Dry Stack
Oct 2014	House 2	15 Tons	Dry Stack
Oct 2014	House 3	15 Tons	Dry Stack
Oct 2014	House 4	15 Tons	Dry Stack
Dec 2014	House 1	15 Tons	Dry Stack
Dec 2014	House 2	15 Tons	Dry Stack
Dec 2014	House 3	15 Tons	Dry Stack
Dec 2014	House 4	15 Tons	Dry Stack

Month-Year	Manure Source	Amount	Manure Destination
Feb 2015	House 1	15 Tons	Dry Stack
Feb 2015	House 2	15 Tons	Dry Stack
Feb 2015	House 3	15 Tons	Dry Stack
Feb 2015	House 4	15 Tons	Dry Stack
Apr 2015	House 1	117 Tons	Dry Stack
Apr 2015	House 2	117 Tons	Dry Stack
Apr 2015	House 3	117 Tons	Dry Stack
Apr 2015	House 4	117 Tons	Dry Stack

Section 3. Farmstead Safety and Security

3.1. Emergency Response Plan

In Case of an Emergency Storage Facility Spill, Leak or Failure

Implement the following first containment steps:

a. Stop all other activities to address the spill.
b. Stop the flow. For example, use skid loader or tractor with blade to contain or divert spill or leak.
c. Call for help and excavator if needed.
d. Complete the clean-up and repair the necessary components.
e. Assess the extent of the emergency and request additional help if needed.

In Case of an Emergency Spill, Leak or Failure during Transport or Land Application

Implement the following first containment steps:

a. Stop all other activities to address the spill and stop the flow.
b. Call for help if needed.
c. If the spill posed a hazard to local traffic, call for local traffic control assistance and clear the road and roadside of spilled material.
d. Contain the spill or runoff from entering surface waters using straw bales, saw dust, soil or other appropriate materials.
e. If flow is coming from a tile, plug the tile with a tile plug immediately.
f. Assess the extent of the emergency and request additional help if needed.

Emergency Contacts

Department / Agency	Phone Number
Fire	911
Rescue services	911
State veterinarian	615-781-5310
Sheriff or local police	911

Nearest available excavation equipment/supplies for responding to emergency

Equipment Type	Contact Person	Phone Number
End loader and scraper	On farm	On Farm

Contacts to be made by the owner or operator within 24 hours

Organization	Phone Number
EPA Emergency Spill Hotline	1-888-891-8332
County Health Department	(423) 272-7641
Other State Emergency Agency	931-823-1465

Be prepared to provide the following information:

a. Your name and contact information.
b. Farm location (driving directions) and other pertinent information.
c. Description of emergency.
d. Estimate of the amounts, area covered, and distance traveled.
e. Whether manure has reached surface waters or major field drains.
f. Whether there is any obvious damage: employee injury, fish kill, or property damage.
g. Current status of containment efforts.

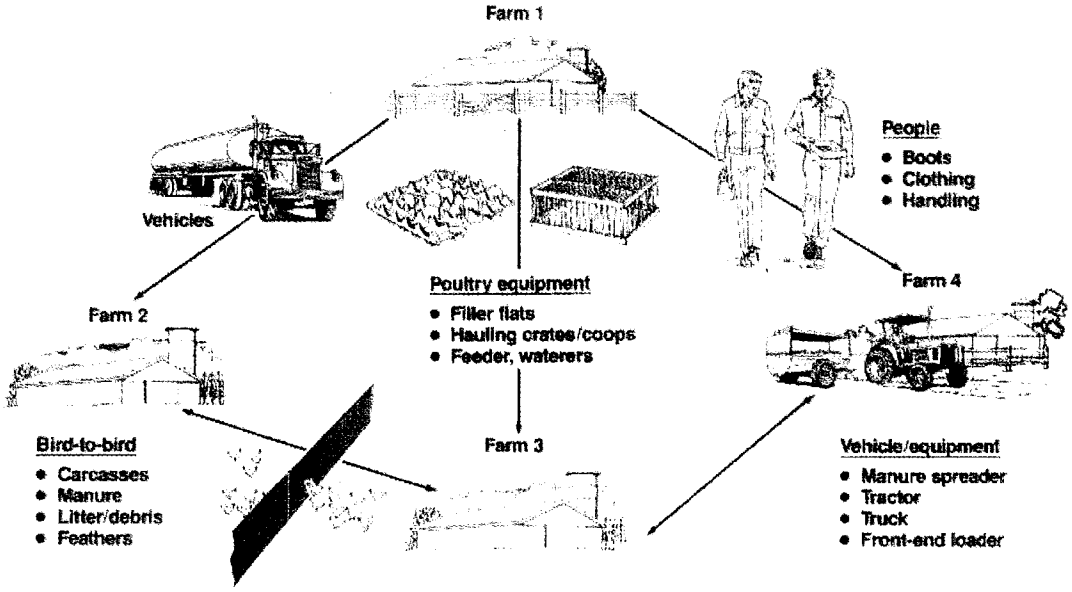
3.2. Biosecurity Measures

Biosecurity is critical to protecting livestock operations. Visitors must contact and check in with the producer before entering the operation or any production or storage facility.

Some examples of good bio-security practices include:

a. Permit only essential workers and vehicles on the premises.
b. Provide clean clothing and a disinfection procedure for employees and visitors. Know your visitor's travel history.
c. Report signs of disease to your veterinarian.

How Diseases Spread



Steps to Take to Avoid Disease Spread - Poultry

To reduce the risk of introducing disease into a flock, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, poultry facilities, other commercial avian facilities, and pet birds. Some examples of good biosecurity practices include:

a. Permit only essential workers and vehicles on the premises.
b. Provide clean clothing and a disinfection procedure for employees and visitors. Know your visitor's travel history.
c. Clean and disinfect vehicles at the farm entrance.
d. Avoid visiting other avian facilities.
e. Do not keep pet birds.
f. Protect the flock from exposure to wild birds.
g. Control movement associated with the disposal of bird carcasses, litter, and manure.
h. Quarantine new additions to the flock. Never allow people or material to move from the quarantined birds to the flock.
i. Report signs of disease to your veterinarian.

3.3. Catastrophic Mortality Management

Refer to NRCS standards, or state guidance, regarding appropriate catastrophic animal mortality handling methods.

Plan for Catastrophic Animal Mortality Handling

The following table describes how you plan to manage catastrophic loss of animals in a manner that protects surface and ground water quality. You must follow all national, state and local laws, regulations and guidelines that protect soil, water, air, plants, animals and human health.

Burial will be used to dispose of catastrophic mortalities. Contact the state veterinarians office and the local TDEC office. **BURIAL--** Dig a large pit or trench as located on the plan map. Insert dead animals daily, and cover them with two feet of soil. The pit should be graded so that it does not impound water. Runoff from the pit should flow into a grass filter. Note: When adequate drainage is not provided, these pits or trenches fill with water and carcasses may actually float to the surface. The water in the pit is very bacteria-laden and may be a hazard to both animal and human health. There is also high potential for ground water contamination from both bacteria and nutrients. Burial trenches and pits must have at least a 2.0-foot separation between the bottom of the trench and groundwater. The pits should also have a berm to divert rainfall and runoff from the site. The soil should be able to infiltrate any rainfall that falls directly into the pit. Vectors (dogs, rats, snakes, flies, etc.) are potential problems in a burial situation. Carcasses must be covered daily as to reduce vectors in and around the trench or pit. When the burial pit is full, the site will be capped with a mound of soil so that precipitation is not allowed to collect in the closed pit. Also, the area will be grassed as to prevent erosion. The burial area will be monitored so that these conditions remain after settling of decomposing carcasses and capping material.

Important! In the event of catastrophic animal mortality, contact the following authority before beginning carcass disposal:

Authority name APHIS
Contact name Phillip Gordon
Phone number 615-781-5310

3.4. Chemical Handling

If checked, the indicated measures will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

	Measure
X	All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.
X	Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.
X	Chemical storage areas are covered to prevent chemical contact with rain or snow.
X	Emergency procedures and equipment are in place to contain and clean up chemical spills.
X	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
	All chemicals are custom applied and no chemicals are stored at the operation. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.

Section 4. Land Treatment

This element addresses evaluation and implementation of appropriate conservation practices on sites proposed for land application of manure and organic byproducts from an Animal Feeding Operation. On fields where manure and organic byproducts are applied as beneficial nutrients, it is essential that runoff and soil erosion be minimized, to allow for plant uptake of these nutrients.

4.1. Map(s) of Fields and Conservation Practices

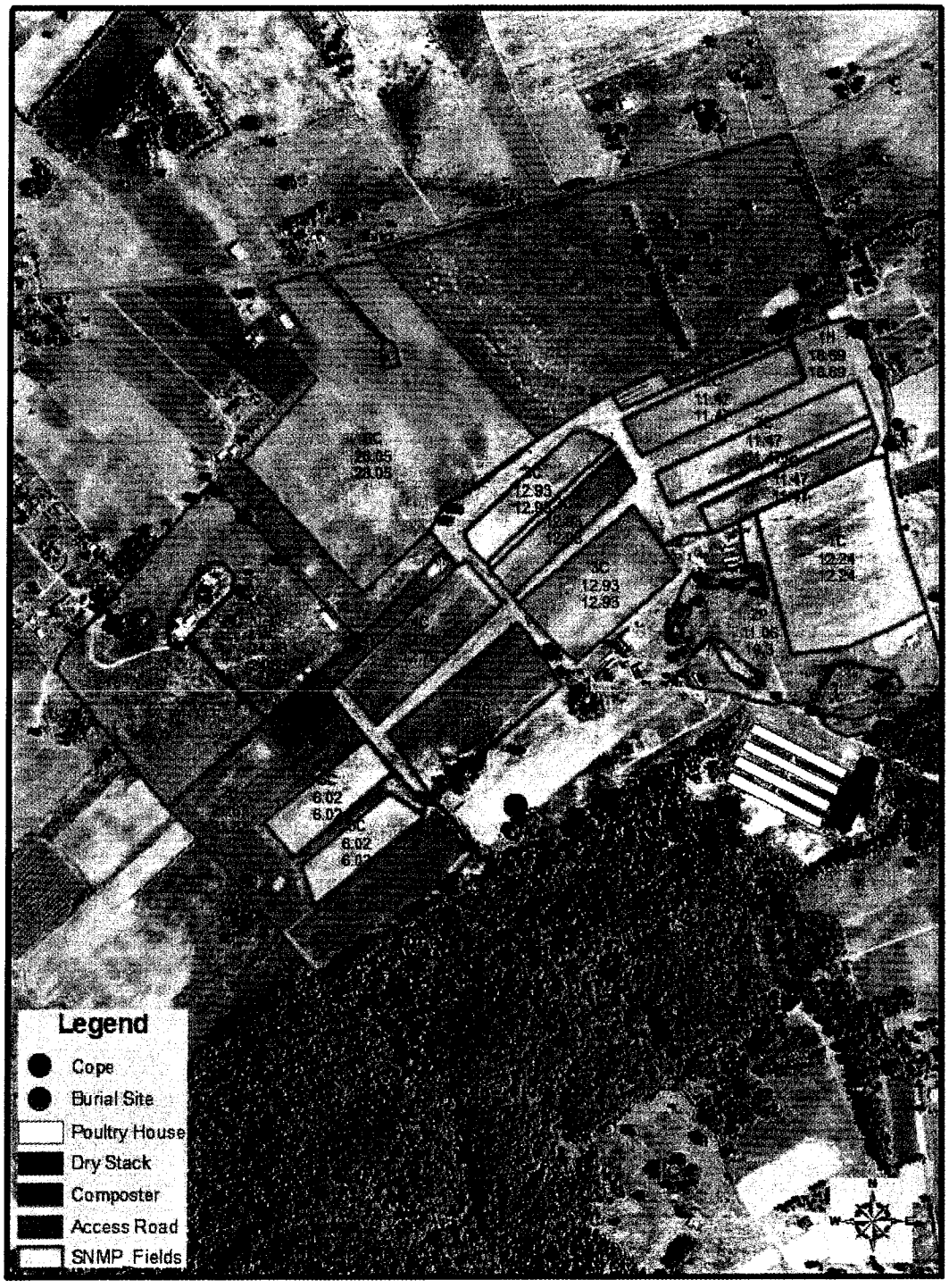
Fields 1P, 2P and 3P are pastureland
Fields 1H, 2H, 3H, 4H and 5H are hayland
Fields 1C, 2C, 3C, 4C, 5C, 6C and 7C are cropland.

County: Hawkins

Staye: Tennessee

Ted Cope CPO Home

Date: 5/25/2010



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JUL 27 2010

Permit Section

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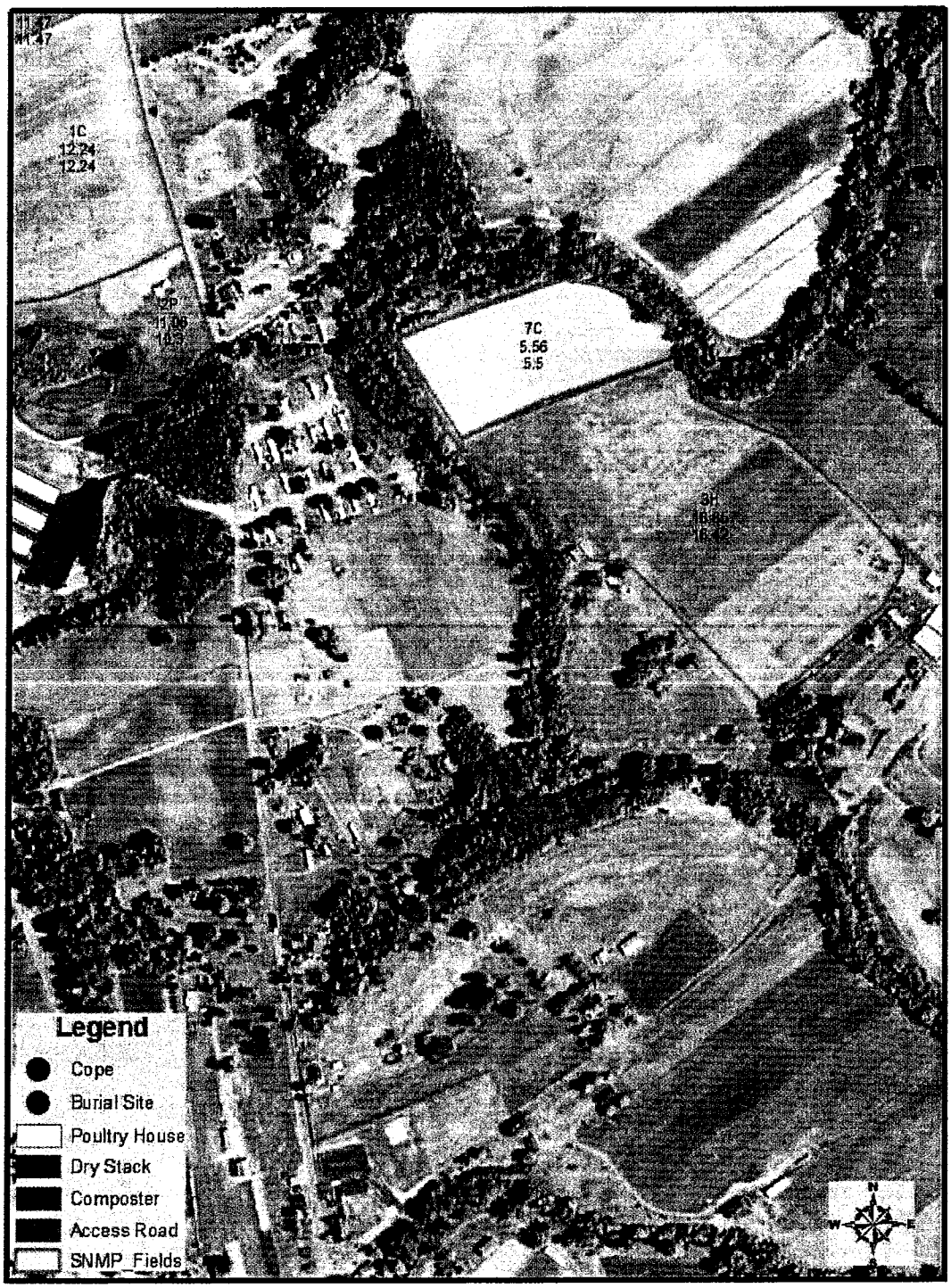
MAY 28 2010

County: Hawkins

Staye Tennessee

Ted Cope CPO 2

Date: 5/25/2010



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County: Hawkins

Staye: Tennessee

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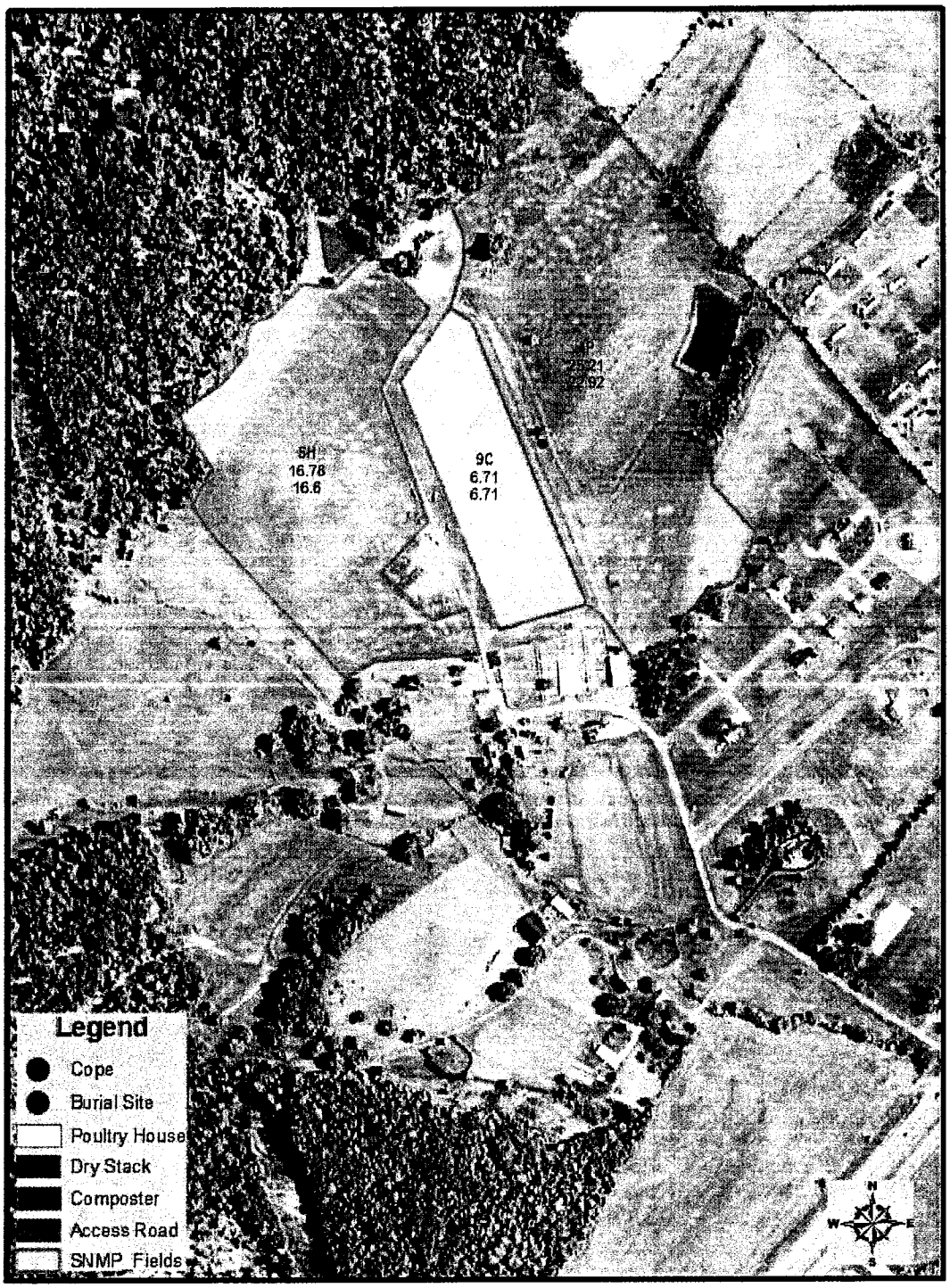
Date 5/25/2010



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4.2. Land Treatment Conservation Practices

Forage Harvest Management (511)
.Cutting and removal of forages from the field will be managed to produce the desired quality and quantity, to promote vigorous regrowth, and to maintain stand life. Maintain a minimum of 3-inch stubble height.

Tract/Field	Planned amount (Ac)	Month	Year	Amount Applied	Date
1H	18.69	5	2010		
2H	21.87	5	2010		
3H	16.65	5	2010		
4H	13.73	5	2010		
5H	16.78	5	2010		
Total	**87.72**				

PASTURE AND HAYLAND PLANTING (512)
Fertilize according to current soil test requirements for establishment and control weeds by mowing or use of approved herbicides. Prepare a clean, firm, weed free seedbed for planting.

Tract/Field	Planned amount (Ac)	Month	Year	Amount Applied	Date
1P			2010	43.28	Prior
2P			2010	11.06	Prior
3P			2010	24.88	Prior
Total				**79.22**	

Prescribed Grazing (528)
Apply this practice annually for the purpose of forage production for harvest by grazing livestock while maintaining forage health and vigor for reduced soil erosion, water quality benefits and improved animal performance. Plan grazing duration and animal number of livestock to match forage production. Do not graze closer than minimum heights for the species shown below. Do not graze until well established. This will be, at a minimum, the entire first year's growing season. If grass is not established by the end of the first growing season, defer through the second. Livestock water will be supplied.

Maintain Proper Forage Height

Forage Species	Height to Begin Grazing	Height to Terminate Grazing	Recovery Time Estimate (Days)
Tall Fescue Crabgrass	5-8"	3"	14-45
Tall Fescue (Endophyte Free) Orchardgrass	5-8"	4"	14-45

NUTRIENT MANAGEMENT (590)
To maintain or improve the chemical and/or biological condition of the soil, manage the amount, form, placement, and timing of plant nutrients. Fertilizer and animal waste application, soil testing, manure analysis, and record keeping will be carried out as specified by the Nutrient Management Section of this Comprehensive Nutrient Management Plan. All nutrients will be applied according to a current soils test. If animal waste is to be applied, a soil test will be required every year. Apply nutrients based on current (no older than 3 years) soil test results.

Tract/Field	Planned amount (Ac)	Month	Year	Amount Applied	Date
1H	18.69	5	2010		
2H	21.87	5	2010		
3H	16.65	5	2010		
4H	13.73	5	2010		
5H	16.78	5	2010		
1C	12.24	5	2010		
2C	11.47	5	2010		
3C	12.93	5	2010		
4C	12.76	5	2010		
5C	6.02	5	2010		
6C	28.05	5	2010		
7C	5.56	5	2010		
8C	9.22	5	2010		
9C	6.71	5	2010		
Total	**192.68**				

PEST MANAGEMENT (595)

Chemical Control: Read and follow all label directions. Calibrate application equipment prior to application to ensure proper application rates for specific chemicals. Dispose of unused material according to label directions. Mechanical Control: Shred or mow weeds about one inch above the average height of the grass or crop. In areas of heavy competition, remove piled material after mowing to prevent shading or smothering of desirable vegetation. Weeds should be controlled prior to bloom stage.

Tract/Field	Planned amount (Ac)	Month	Year	Amount Applied	Date
1H	18.69	5	2010		
2H	21.87	5	2010		
3H	16.65	5	2010		
4H	13.73	5	2010		
5H	16.78	5	2010		
1C	12.24	5	2010		
2C	11.47	5	2010		
3C	12.93	5	2010		
4C	12.76	5	2010		
5C	6.02	5	2010		
6C	28.05	5	2010		
7C	5.56	5	2010		
8C	9.22	5	2010		
9C	6.71	5	2010		
Total	**192.68**				

Waste Utilization (633)

The enclosed "Nutrient Management Plan" in Section 4 outlines the proper manure application rates, timing, and methods of application to provide needed crop nutrients and to minimize the transport of nutrients to ground and surface water. Follow setbacks (non-manure) applications areas outlined on maps.

Tract/Field	Planned amount (Ac)	Month	Year	Amount Applied	Date
1H	18.69	5	2010		
2H	21.87	5	2010		
3H	16.42	5	2010		

4H	13.73	5	2010		
5H	16.6	5	2010		
1C	12.24	5	2010		
2C	11.47	5	2010		
3C	12.93	5	2010		
4C	12.76	5	2010		
5C	6.02	5	2010		
6C	28.05	5	2010		
7C	5.5	5	2010		
8C	9.22	5	2010		
9C	6.71	5	2010		
Total	**192.21**				

ENTERED ON: 9/30/2010
BY: MCB

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Section 5. Soil and Risk Assessment Analysis

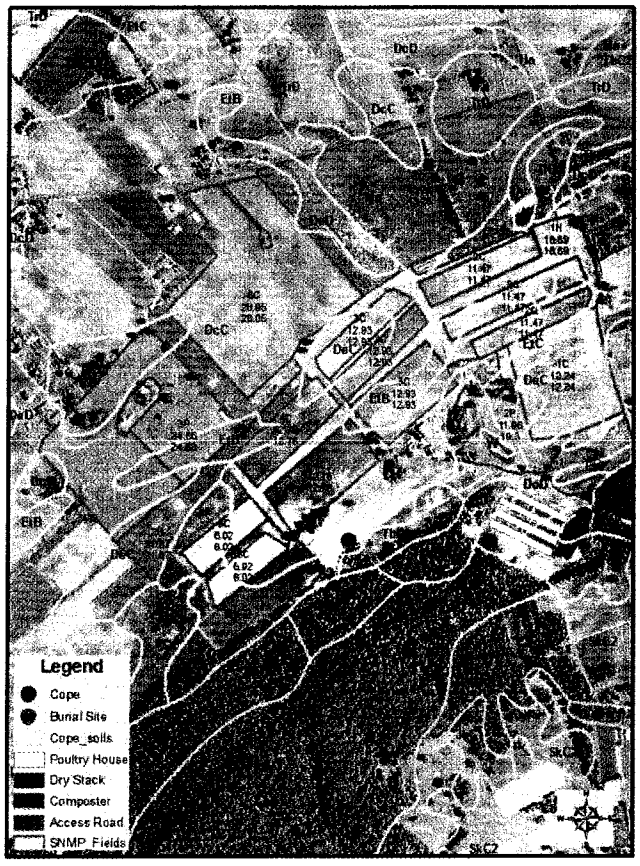
5.1. Soil Information

Field	Map Unit	Soil Component Name	Surface Texture	Slope Range (%)	OM Range (%)	Bedrock Depth (in.)
1C	DeC	Dewey	SIL	5-12%	1-3%	
1H	DcC	Decatur	SIL	5-12%	0.5-2%	
2C	DcC	Decatur	SIL	5-12%	0.5-2%	
2H	TbC2	Talbott	SIL	5-12%	0.5-2%	35
3C	DeC	Dewey	SIL	5-12%	1-3%	
3H	DcC	Decatur	SIL	5-12%	0.5-2%	
4C	DcC	Decatur	SIL	5-12%	0.5-2%	
4H	DcC	Decatur	SIL	5-12%	0.5-2%	
5C	DcC	Decatur	SIL	5-12%	0.5-2%	
5H	SoC	Shouns	SIL	3-12%	1-3%	
6C	DcC	Decatur	SIL	5-12%	0.5-2%	
7C	Se	Sequatchie	L	0-2%	1-3%	
8C	SkC2	Sequoia	SIL	3-12%	0.5-2%	38
9C	Sa	Sensabaugh	GR-L	2-5%	1-3%	

County: Hawkins
State: Tennessee

Ted Cope Soils Home

Date: 5/25/2010



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County Hawkins
State Tennessee

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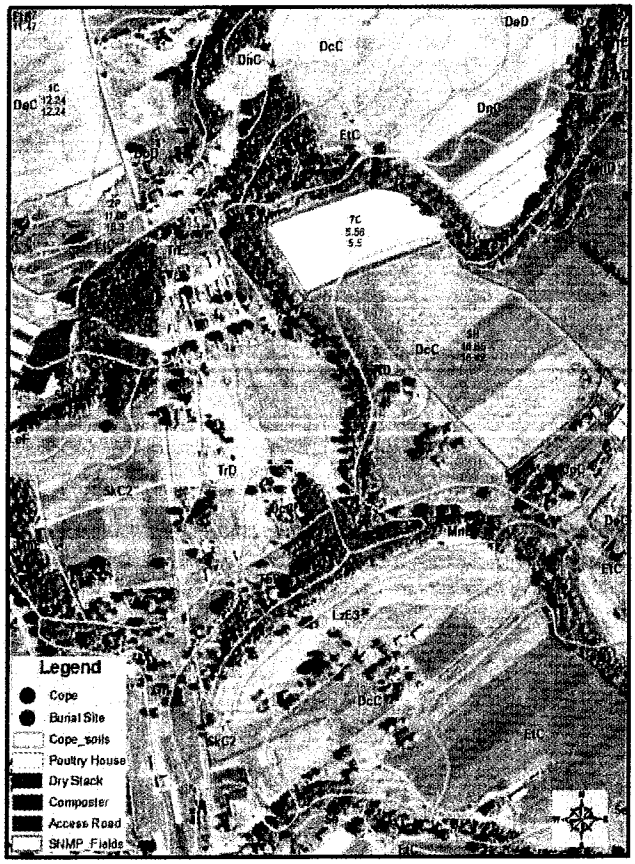
Date 5/25/2010



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State: Tennessee

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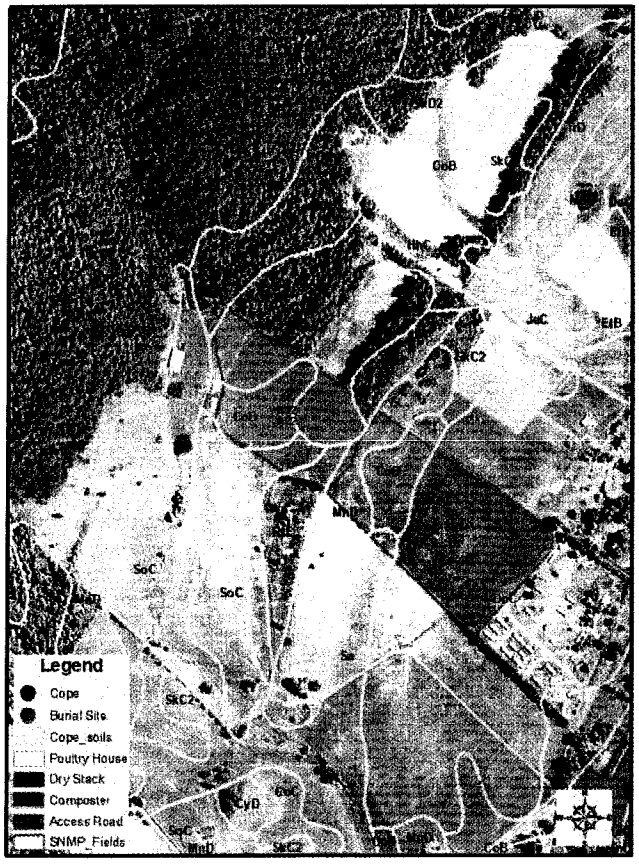

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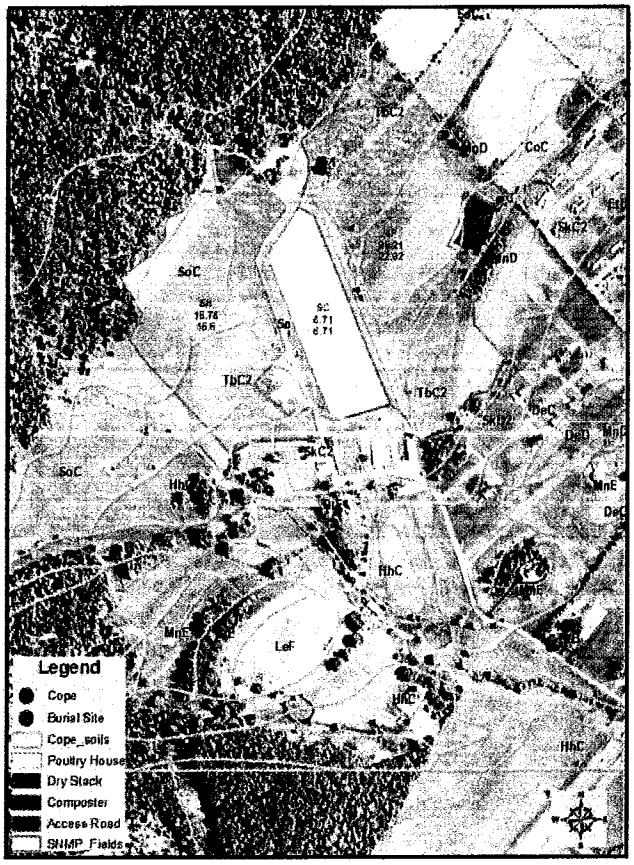

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Values

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Map Unit Description (Brief, Generated)

Hawkins and Hancock Counties, Tennessee

[Minor map unit components are excluded from this report]

Map unit: DcC - Decatur silt loam, 5 to 12 percent slopes

Component: Decatur (100%)

The Decatur component makes up 100 percent of the map unit. Slopes are 5 to 12 percent. This component is on ridges on river valleys. The parent material consists of clayey alluvium and/or residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: DeC - Dewey silt loam, 5 to 12 percent slopes

Component: Dewey (100%)

The Dewey component makes up 100 percent of the map unit. Slopes are 5 to 12 percent. This component is on ridges on river valleys. The parent material consists of clayey residuum or clayey alluvium over residuum weathered from limestone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: Sa - Sensabaugh gravelly loam

Component: Sensabaugh (100%)

The Sensabaugh component makes up 100 percent of the map unit. Slopes are 2 to 5 percent. This component is on drainageways on river valleys. The parent material consists of loamy alluvium derived from limestone, sandstone, and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 60 inches during January, February, March, April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map unit: Se - Sequatchie loam

Component: Sequatchie (100%)

The Sequatchie component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces on river valleys. The parent material consists of loamy alluvium derived from interbedded sedimentary rock. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Map unit: SkC2 - Sequoia silt loam, 3 to 12 percent slopes, eroded

Component: Sequoia (100%)

The Sequoia component makes up 100 percent of the map unit. Slopes are 3 to 12 percent. This component is on ridges on river valleys. The parent material consists of clayey residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Map unit: SoC - Shouns silt loam, 3 to 12 percent slopes

Component: Shouns (100%)

The Shouns component makes up 100 percent of the map unit. Slopes are 3 to 12 percent. This component is on ridges on river valleys. The parent material consists of loamy colluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map unit: TbC2 - Talbott silt loam, 5 to 12 percent slopes, eroded

Component: Talbott (100%)

The Talbott component makes up 100 percent of the map unit. Slopes are 5 to 12 percent. This component is on ridges on river valleys. The parent material consists of clayey residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

5.2. Predicted Soil Erosion

Field	Predominant Soil Type	Slope (%)	Plan Avg. Soil Loss (Ton/Ac/Yr)
1C	DeC (Dewey SIL)	7.0	4.4
1H	DcC (Decatur SIL)	7.0	0.8
2C	DcC (Decatur SIL)	7.0	0.8
2H	TbC2 (Talbott SIL)	7.0	1.0
3C	DeC (Dewey SIL)	7.0	4.4
3H	DcC (Decatur SIL)	7.0	0.9
4C	DcC (Decatur SIL)	7.0	0.8
4H	DcC (Decatur SIL)	7.0	0.9
5C	DcC (Decatur SIL)	7.0	4.3
5H	SoC (Shouns SIL)	5.0	0.6
6C	DcC (Decatur SIL)	7.0	4.3
7C	Se (Sequatchie L)	1.0	0.2
8C	SkC2 (Sequoia SIL)	5.0	3.8
9C	Sa (Sensabaugh GR-L)	3.0	0.3

Field	Crop Year	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Soil Loss (Ton/Ac)	Primary Crop
1C	2010	10/16/2009	9/15/2010	2.4	Tobacco
	2011	9/16/2010	10/15/2011	4.4	Corn grain
	2012	10/16/2011	9/15/2012	2.9	Tobacco
	2013	9/16/2012	10/15/2013	4.6	Corn grain
	2014	10/16/2013	9/15/2014	3.0	Tobacco
1H	2010	9/11/2009	9/10/2010	0.9	Fescue hay maint
	2011	9/11/2010	9/10/2011	0.7	Fescue hay maint
	2012	9/11/2011	9/10/2012	0.9	Fescue hay maint
	2013	9/11/2012	10/1/2013	0.8	Fescue hay maint
	2014	10/2/2013	9/10/2014	0.8	Fescue hay maint
2C	2010	9/16/2009	10/15/2010	0.0	Corn grain
	2011	10/16/2010	9/15/2011	0.2	Tobacco
	2012	9/16/2011	9/15/2011	0.0	Corn grain
	2013	9/16/2011	10/15/2012	1.4	Tobacco
	2014	10/16/2012	9/15/2013	2.4	Corn grain
2H	2010	9/11/2009	9/10/2010	1.0	Fescue hay maint
	2011	9/11/2010	9/10/2011	0.9	Fescue hay maint
	2012	9/11/2011	9/10/2012	1.0	Fescue hay maint
	2013	9/11/2012	10/1/2013	0.9	Fescue hay maint
	2014	10/2/2013	9/10/2014	0.9	Fescue hay maint
3C	2010	10/16/2009	9/15/2010	2.4	Tobacco
	2011	9/16/2010	10/15/2011	4.4	Corn grain
	2012	10/16/2011	9/15/2012	2.9	Tobacco
	2013	9/16/2012	10/15/2013	4.6	Corn grain
	2014	10/16/2013	9/15/2014	3.0	Tobacco
3H	2010	9/11/2009	9/10/2010	1.0	Fescue hay maint
	2011	9/11/2010	9/10/2011	1.0	Fescue hay maint
	2012	9/11/2011	9/10/2012	0.8	Fescue hay maint
	2013	9/11/2012	10/1/2013	1.0	Fescue hay maint
	2014	10/2/2013	9/10/2014	0.7	Fescue hay maint
4C	2010	9/16/2009	10/15/2010	0.0	Corn grain

Field	Crop Year	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Soil Loss (Ton/Ac)	Primary Crop
	2011	10/16/2010	9/15/2011	0.2	Tobacco
	2012	9/16/2011	9/15/2011	0.0	Corn grain
	2013	9/16/2011	10/15/2012	1.4	Tobacco
	2014	10/16/2012	9/15/2013	2.4	Corn grain
4H	2010	9/11/2009	9/10/2010	1.0	Fescue hay maint
	2011	9/11/2010	9/10/2011	1.0	Fescue hay maint
	2012	9/11/2011	9/10/2012	0.8	Fescue hay maint
	2013	9/11/2012	10/1/2013	1.0	Fescue hay maint
	2014	10/2/2013	9/10/2014	0.7	Fescue hay maint
5C	2010	10/16/2009	9/15/2010	2.3	Tobacco
	2011	9/16/2010	10/15/2011	4.4	Corn grain
	2012	10/16/2011	9/15/2012	2.9	Tobacco
	2013	9/16/2012	10/15/2013	4.6	Corn grain
	2014	10/16/2013	9/15/2014	3.0	Tobacco
5H	2010	9/11/2009	9/10/2010	0.7	Fescue hay maint
	2011	9/11/2010	9/10/2011	0.6	Fescue hay maint
	2012	9/11/2011	9/10/2012	0.7	Fescue hay maint
	2013	9/11/2012	10/1/2013	0.6	Fescue hay maint
	2014	10/2/2013	9/10/2014	0.6	Fescue hay maint
6C	2010	10/16/2009	9/15/2010	2.3	Tobacco
	2011	9/16/2010	10/15/2011	4.4	Corn grain
	2012	10/16/2011	9/15/2012	2.9	Tobacco
	2013	9/16/2012	10/15/2013	4.6	Corn grain
	2014	10/16/2013	9/15/2014	3.0	Tobacco
7C	2010	9/16/2009	10/15/2010	0.0	Corn grain
	2011	10/16/2010	9/15/2011	0.1	Tobacco
	2012	9/16/2011	9/15/2011	0.0	Corn grain
	2013	9/16/2011	10/15/2012	0.3	Tobacco
	2014	10/16/2012	9/15/2013	0.5	Corn grain
8C	2010	10/16/2009	9/15/2010	2.1	Tobacco
	2011	9/16/2010	10/15/2011	3.9	Corn grain

Field	Crop Year	Starting Date (mm/dd/yyyy)	Ending Date (mm/dd/yyyy)	Soil Loss (Ton/Ac)	Primary Crop
	2012	10/16/2011	9/15/2012	2.5	Tobacco
	2013	9/16/2012	10/15/2013	4.1	Corn grain
	2014	10/16/2013	9/15/2014	2.7	Tobacco
9C	2010	9/16/2009	10/15/2010	0.0	Corn grain
	2011	10/16/2010	9/15/2011	0.1	Tobacco
	2012	9/16/2011	9/15/2011	0.0	Corn grain
	2013	9/16/2011	10/15/2012	0.5	Tobacco
	2014	10/16/2012	9/15/2013	0.9	Corn grain

5.3. Nitrogen and Phosphorus Risk Analysis

Risk Assessment for Potential Phosphorous Transport from Fields

The Phosphorus Index is a field-specific assessment tool used to provide a relative value of the field for potential phosphorus transport from the fields. Based on the soil test phosphorus level and the P Index value, nutrients should be land applied on a nitrogen-based, with an estimated 2P removal in harvested biomass, or P removal, or no P application. Any phosphorus application option, including a single application (banking), shall not exceed the recommended nitrogen application rate during the year of application, or not exceed the estimated nitrogen removal n harvested biomass.

Tennessee Phosphorus Index

Field	Crop Year	Site and Transport Factor	Mgmt. and Source Factor	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
1C	2010	19	4	76	76	Low
1C	2011	19	21	76	399	Very High
1C	2012	19	4	76	76	Low
1C	2013	19	21	76	399	Very High
1C	2014	19	4	76	76	Low
1H	2010	13	1	13	13	Low
1H	2011	13	18	13	234	High
1H	2012	13	1	13	13	Low
1H	2013	13	18	13	234	High
1H	2014	13	1	13	13	Low
2C	2010	19	2	38	38	Low

Field	Crop Year	Site and Transport Factor	Mgmt. and Source Factor	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
2C	2011	19	2	38	38	Low
2C	2012	19	20	38	380	Very High
2C	2013	19	2	38	38	Low
2C	2014	19	20	38	380	Very High
2H	2010	15	4	60	60	Low
2H	2011	15	21	60	315	Very High
2H	2012	15	4	60	60	Low
2H	2013	15	21	60	315	Very High
2H	2014	15	4	60	60	Low
3C	2010	19	4	76	76	Low
3C	2011	19	21	76	399	Very High
3C	2012	19	4	76	76	Low
3C	2013	19	21	76	399	Very High
3C	2014	19	4	76	76	Low
3H	2010	13	4	52	52	Low
3H	2011	13	4	52	52	Low
3H	2012	13	21	52	273	High
3H	2013	13	4	52	52	Low
3H	2014	13	21	52	273	High
4C	2010	19	4	76	76	Low
4C	2011	19	4	76	76	Low
4C	2012	19	21	76	399	Very High
4C	2013	19	4	76	76	Low
4C	2014	19	21	76	399	Very High
4H	2010	13	4	52	52	Low
4H	2011	13	4	52	52	Low
4H	2012	13	21	52	273	High
4H	2013	13	4	52	52	Low
4H	2014	13	21	52	273	High
5C	2010	19	4	76	76	Low

Field	Crop Year	Site and Transport Factor	Mgmt. and Source Factor	P Index w/o P Apps	P Index w/ P Apps	P Loss Risk
5C	2011	19	22	76	418	Very High
5C	2012	19	4	76	76	Low
5C	2013	19	22	76	418	Very High
5C	2014	19	4	76	76	Low
5H	2010	13	4	52	52	Low
5H	2011	13	21	52	273	High
5H	2012	13	4	52	52	Low
5H	2013	13	21	52	273	High
5H	2014	13	4	52	52	Low
6C	2010	19	4	76	76	Low
6C	2011	19	21	76	399	Very High
6C	2012	19	4	76	76	Low
6C	2013	19	21	76	399	Very High
6C	2014	19	4	76	76	Low
7C	2010	13	2	26	26	Low
7C	2011	13	2	26	26	Low
7C	2012	13	20	26	260	High
7C	2013	13	2	26	26	Low
7C	2014	13	20	26	260	High
8C	2010	21	4	84	84	Low
8C	2011	21	21	84	441	Very High
8C	2012	21	4	84	84	Low
8C	2013	21	21	84	441	Very High
8C	2014	21	4	84	84	Low
9C	2010	13	8	104	104	Medium
9C	2011	13	8	104	104	Medium
9C	2012	13	26	104	338	Very High
9C	2013	13	8	104	104	Medium
9C	2014	13	26	104	338	Very High

5.4. Additional Field Data Required by Risk Assessment Procedure

Field	Distance to Water (Feet)	Slope Length (Feet)	Buffer Width (Feet)	Tillage/Cover Type
1C	200	120	None	No-till w/ light to medium residues
1H	1,500	120	None	Pasture/Hay
2C	500	120	None	No-till w/ light to medium residues
2H	1,000	120	None	Pasture/Hay
3C	400	120	None	No-till w/ light to medium residues
3H	100	120	None	Pasture/Hay
4C	800	120	None	No-till w/ light to medium residues
4H	500	120	None	Pasture/Hay
5C	1,000	120	None	No-till w/ light to medium residues
5H	100	150	None	Pasture/Hay
6C	1,500	120	None	No-till w/ light to medium residues
7C	100	100	None	No-till w/ light to medium residues
8C	100	150	None	No-till w/ light to medium residues
9C	500	150	None	No-till w/ light to medium residues

Section 6. Nutrient Management

The goal of this section is to develop a nutrient budget for nitrogen, phosphorus, and potassium that includes all nutrient sources. From this nutrient budget, projections will be made concerning the sustainability of the plan for the entire crop sequence. In most cases, the nutrient budget is accurate for the first year only. If nutrients from sources not included in this plan are used in the first year, the nutrient budget will be revised to account for those inputs. In subsequent years considered in this plan, a nutrient budget will be developed using current soil analysis data; current manure analysis data; the actual crops to be used and their projected yields and nutrient needs and will account for nutrients from all sources. Guidance in developing a nutrient budget may be obtained from your NRCS Field Office or your University of Tennessee Cooperative Extension Service Agent. Land application procedures must be planned and implemented in a way that minimizes potential adverse impacts to the environment and public health.

If land is included in the future for application that is not under the ownership/control of the producer, appropriate agreements will be obtained.

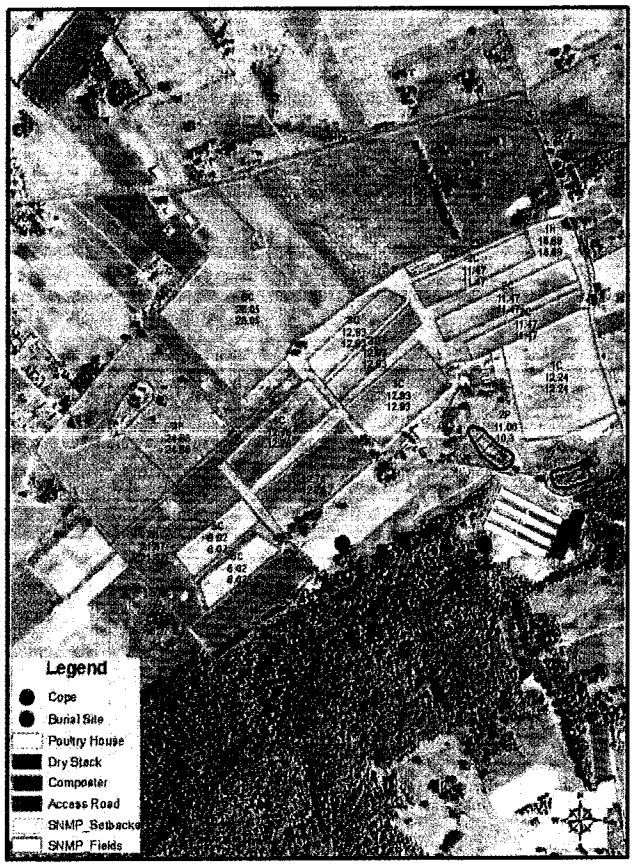
6.1. Field Information

Field ID	Sub-field ID	Total Acres	Spread-able Acres	FSA Farm	FSA Tract	FSA Field	County	Predominant Soil Type	Slope (%)
1C		12.2	12.2				Hawkins	DeC (Dewey SIL)	7.0
1H		18.7	18.7				Hawkins	DcC (Decatur SIL)	7.0
2C		11.5	11.5				Hawkins	DcC (Decatur SIL)	7.0
2H		21.9	21.9				Hawkins	TbC2 (Talbott SIL)	7.0
3C		12.9	12.9				Hawkins	DeC (Dewey SIL)	7.0
3H		16.6	16.4				Hawkins	DcC (Decatur SIL)	7.0
4C		12.8	12.8				Hawkins	DcC (Decatur SIL)	7.0
4H		13.7	13.7				Hawkins	DcC (Decatur SIL)	7.0
5C		6.0	6.0				Hawkins	DcC (Decatur SIL)	7.0
5H		16.8	16.6				Hawkins	SoC (Shouns SIL)	5.0
6C		28.0	28.0				Hawkins	DcC (Decatur SIL)	7.0
7C		5.6	5.5				Hawkins	Se (Sequatchie L)	1.0
8C		9.2	9.2				Hawkins	SkC2 (Sequoia SIL)	5.0
9C		6.7	6.7				Hawkins	Sa (Sensabaugh GR-L)	3.0

County: Hawkins
State: Tennessee

Ted Cope Land App Home

Date: 5/26/2010



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Various

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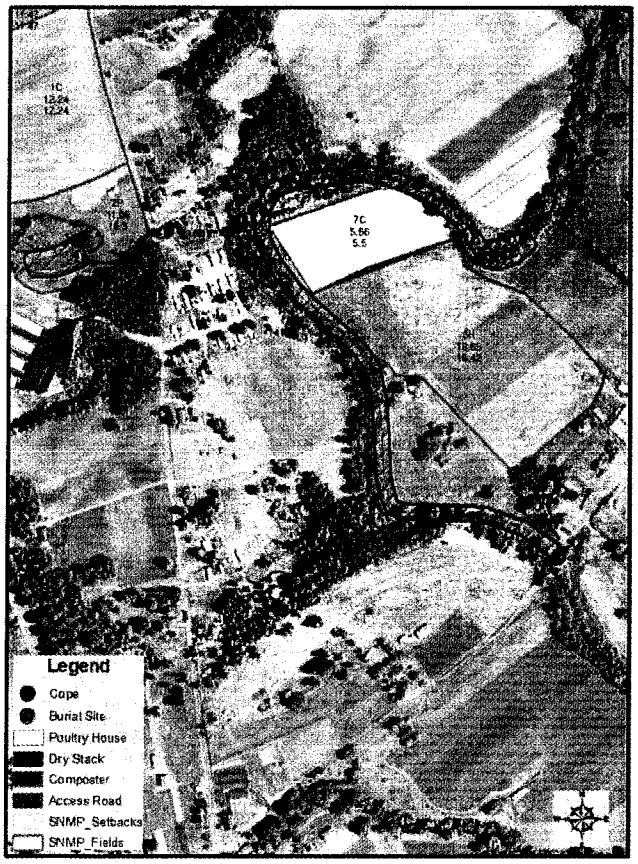
County: Hawkins
State: Tennessee

Ted Cope Land App 2

Date: 5/25/2010



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Validus

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County: Hawkins
State: Tennessee

Ted Cope Land App 3

Date: 5/25/2010

Lat/Long: 36°28'48.88"N; 82°56'47.09"W

Various

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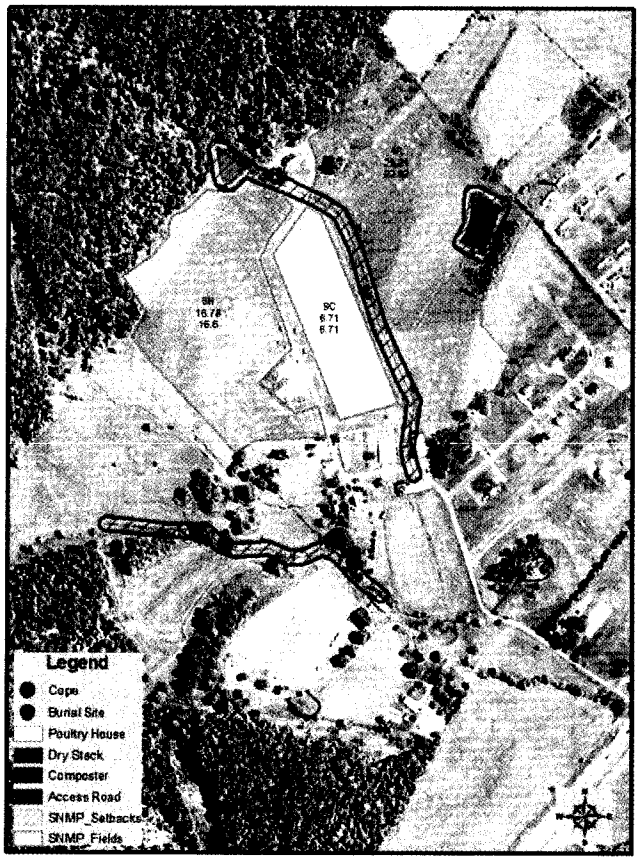
County Hawkins
State Tennessee

Ted Cope Land App 4

Date 5/25/2010



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County Hawkins
State Tennessee

Ted Cope Topo Home

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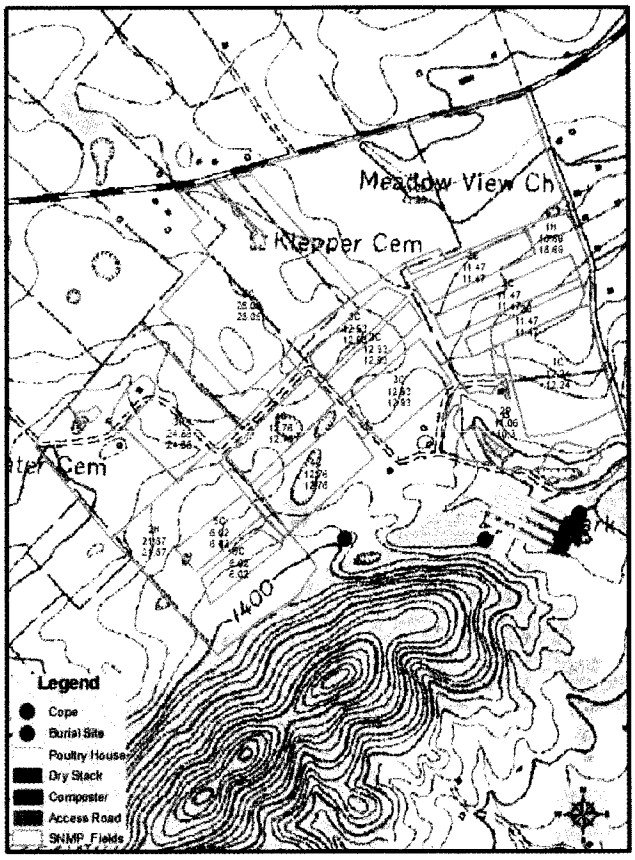

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County Hawkins
State Tennessee

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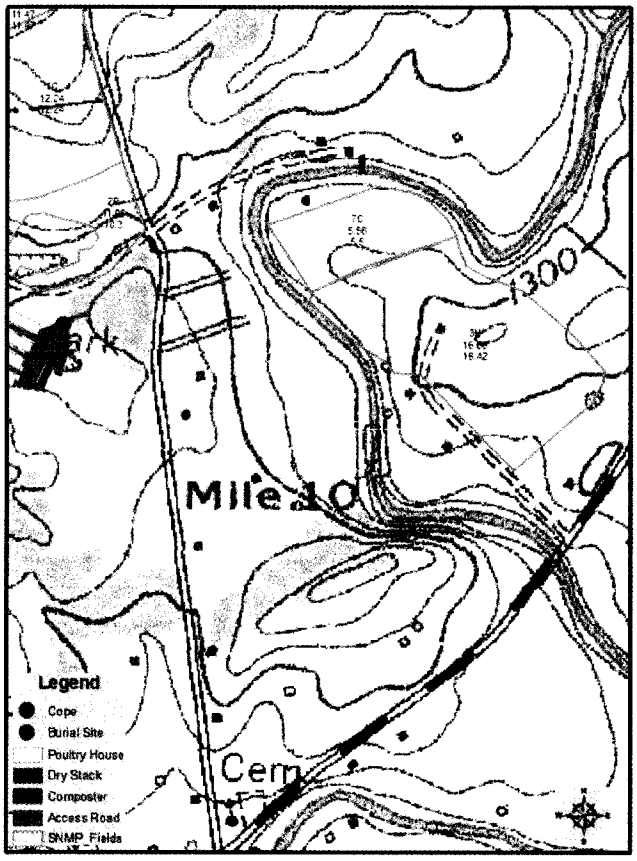

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County Hawkins
State Tennessee

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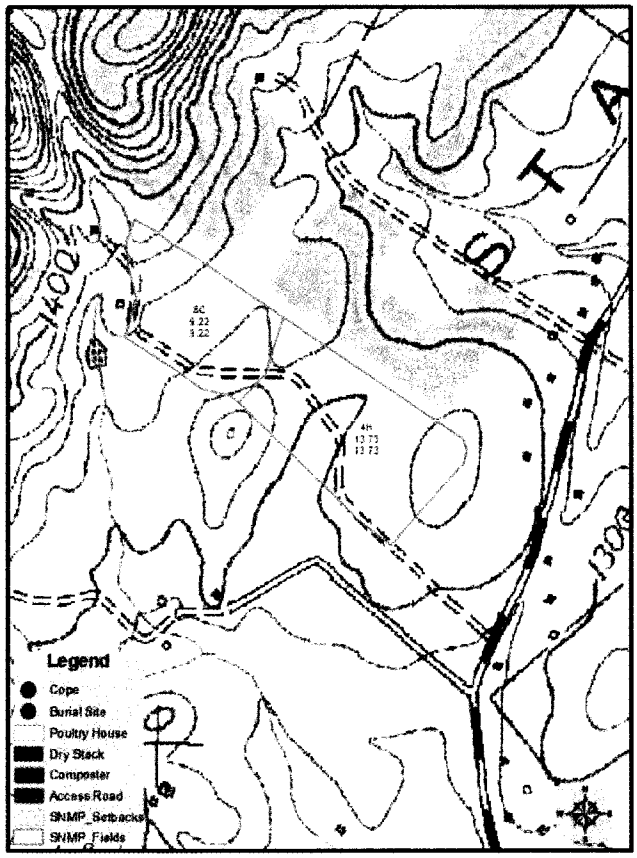

Lat Long: 36°28'48.88"N 82°56'47.09"W

Various

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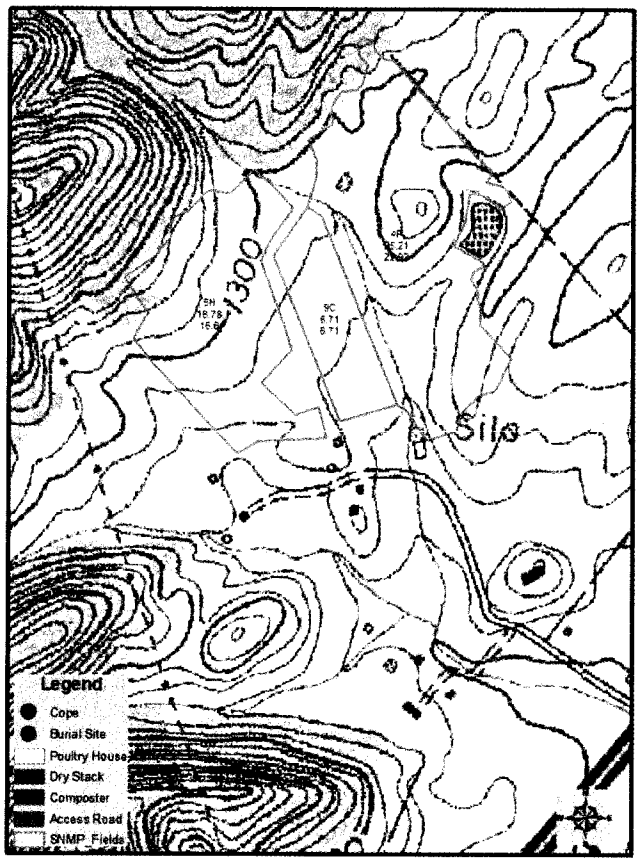
County Hawkins
State Tennessee

Ted Cope Topo 4

Date 5/25/2010



Lat Long 36°26'48.88"N 82°56'47.09"W

Validus

0 350 700 1,40

6.2. Manure Application Setback Distances

Setback Requirements: Class II CAFO

Feature	Setback Criteria	Setback Distance (Feet)
Streams	Applied upgradient, no permanent or insufficient vegetated setback	100
Streams	New operation, near high quality stream	60
Surface waters	Applied upgradient, no permanent or insufficient vegetated setback	100
Open tile line inlet structures	Applied upgradient, no permanent or insufficient vegetated setback	100
Sinkholes	Applied upgradient, no permanent or insufficient vegetated setback	100
Agricultural well heads	Applied upgradient, no permanent or insufficient vegetated setback	100
Other conduits to surface waters	Applied upgradient, no permanent or insufficient vegetated setback	100
Potable well, public or private	Application upgradient of feature	300
Potable well, public or private	Application down-gradient of feature	150

Source: TN DEQ Rule 1200-4-5-.14(17)(d) (http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-05.pdf)

Setback Requirements: NRCS Standard

Feature	Setback Criteria	Setback Distance (Feet)
Well	Application upgradient of feature	300
Well	Application down-gradient of feature	150
Waterbody	Predominant slope <5% with good vegetation	30
Waterbody	Predominant slope 5 to 8% with good vegetation	50
Waterbody	Poor vegetation	100
Public road	All applications	50
Dwelling (other than producer)	All applications	300
Public use area	All applications	300
Property line	Application upgradient of feature	30

Source: Nutrient Management Standard 590 (http://efotg.nrcs.usda.gov/references/public/TN/Nutrient_Management_(590)_Standard.doc)

6.3. Soil Test Data

Field	Test Year	OM (%)	P Test Used	P	K	Mg	Ca	Units	Soil pH	Buffer pH	CEC (meq/100g)
1C	2010		Mehlich-1	189	161	265	3,847	lbs/a	6.4		
1H	2010		Mehlich-1	29	116	163	1,696	lbs/a	6.1		
2C	2010		Mehlich-1	51	31	91	987	lbs/a	5.6	7.6	2.9
2H	2010		Mehlich-1	95	137	169	1,601	lbs/a	6.0	7.5	4.9
3C	2010		Mehlich-1	149	39	162	2,242	lbs/a	5.9	7.3	6.3
3H	2010		Mehlich-1	211	256	168	1,681	lbs/a	6.1		
4C	2010		Mehlich-1	180	48	188	2,633	lbs/a	6.0	7.6	7.4
4H	2010		Mehlich-1	90	80	173	2,589	lbs/a	6.2		
5C	2010		Mehlich-1	180	63	182	2,404	lbs/a	6.9	7.5	6.8
5H	2010		Mehlich-1	155	132	145	1,495	lbs/a	6.1		
6C	2010		Mehlich-1	94	134	206	1,722	lbs/a	5.9	7.6	5.3
7C	2010		Mehlich-1	44	293	185	2,405	lbs/a	6.3		
8C	2010		Mehlich-1	238	420	200	2,963	lbs/a	6.4		
9C	2010		Mehlich-1	249	151	217	3,235	lbs/a	6.7		

6.4. Manure Nutrient Analysis

Manure Source	Dry Matter (%)	Total N	NH_4-N	Total P_2O_5	Total K_2O	Avail. P_2O_5	Avail. K_2O	Units	Analysis Source and Date
House 1		64.3	13.8	71.8	34.1	71.8	34.1	Lb/Ton	A&L Analytical Laboratories Inc
House 2		64.3	13.8	71.8	34.1	71.8	34.1	Lb/Ton	A&L Analytical Laboratories Inc
House 3		64.3	13.8	71.8	34.1	71.8	34.1	Lb/Ton	A&L Analytical Laboratories Inc
House 4		64.3	13.8	71.8	34.1	71.8	34.1	Lb/Ton	A&L Analytical Laboratories Inc
Dry Stack		64.3	13.8	71.8	34.1	71.8	34.1	Lb/Ton	A&L Analytical Laboratories Inc

(1) Entered analysis may be the average of several individual analyses.
(2) Tennessee assumes that 100% of manure phosphorus and 100% of manure potassium is crop available. First-year per-acre nitrogen availability for individual manure applications is given in the Planned Nutrient Applications table. For more information about nitrogen availability in Tennessee, see "Manure Application Management," Tables 3 and 4, Tennessee Extension, PB1510, 2/94 (http://wastemgmt.ag.utk.edu/ExtensionProjects/extension_publications.htm).

6.5. Planned Crops and Fertilizer Recommendations

Field	Crop Year	Planned Crop	Yield Goal (per Acre)	N Rec (Lbs/A)	P_2O_5 Rec (Lbs/A)	K_2O Rec (Lbs/A)	N Removed (Lbs/A)	P_2O_5 Removed (Lbs/A)	K_2O Removed (Lbs/A)	Custom Fert. Rec. Source
1C	2010	Tobacco	25.0 CWT	175	0	90	108	11	118	
1C	2011	Small grain cover*		0	0	0	0	0	0	
1C	2011	Corn grain	140.0 Bu	150	0	0	105	62	41	
1C	2012	Tobacco	25.0 CWT	175	0	90	108	11	118	
1C	2013	Small grain cover*		0	0	0	0	0	0	
1C	2013	Corn grain	140.0 Bu	150	0	0	105	62	41	
1C	2014	Tobacco	25.0 CWT	175	0	90	108	11	118	
1H	2010	Fescue hay maint	3.0 Ton	105	30	30	114	54	156	
1H	2011	Fescue hay maint	3.0 Ton	105	30	30	114	54	156	
1H	2012	Fescue hay maint	3.0 Ton	105	30	30	114	54	156	
1H	2013	Fescue hay maint	3.0 Ton	105	30	30	114	54	156	
1H	2014	Fescue hay maint	3.0 Ton	105	30	30	114	54	156	
2C	2010	Small grain cover*		0	0	0	0	0	0	
2C	2010	Corn grain	140.0 Bu	150	0	120	105	62	41	
2C	2011	Tobacco	25.0 CWT	175	30	300	108	11	118	
2C	2012	Small grain cover*		0	0	0	0	0	0	
2C	2012	Corn grain	140.0 Bu	150	0	120	105	62	41	
2C	2013	Tobacco	25.0 CWT	175	30	300	108	11	118	
2C	2014	Small grain cover*		0	0	0	0	0	0	
2C	2014	Corn grain	140.0 Bu	150	0	120	105	62	41	
2H	2010	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
2H	2011	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
2H	2012	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
2H	2013	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
2H	2014	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
3C	2010	Tobacco	25.0 CWT	175	0	300	108	11	118	
3C	2011	Small grain cover*		0	0	0	0	0	0	
3C	2011	Corn grain	140.0 Bu	150	0	120	105	62	41	
3C	2012	Tobacco	25.0 CWT	175	0	300	108	11	118	

Field	Crop Year	Planned Crop	Yield Goal (per Acre)	N Rec (Lbs/A)	P_2O_5 Rec (Lbs/A)	K_2O Rec (Lbs/A)	N Removed (Lbs/A)	P_2O_5 Removed (Lbs/A)	K_2O Removed (Lbs/A)	Custom Fert. Rec. Source
3C	2013	Small grain cover*		0	0	0	0	0	0	
3C	2013	Corn grain	140.0 Bu	150	0	120	105	62	41	
3C	2014	Tobacco	25.0 CWT	175	0	300	108	11	118	
3H	2010	Fescue hay maint	3.0 Ton	105	0	0	114	54	156	
3H	2011	Fescue hay maint	3.0 Ton	105	0	0	114	54	156	
3H	2012	Fescue hay maint	3.0 Ton	105	0	0	114	54	156	
3H	2013	Fescue hay maint	3.0 Ton	105	0	0	114	54	156	
3H	2014	Fescue hay maint	3.0 Ton	105	0	0	114	54	156	
4C	2010	Small grain cover*		0	0	0	0	0	0	
4C	2010	Corn grain	140.0 Bu	150	0	120	105	62	41	
4C	2011	Tobacco	25.0 CWT	175	0	300	108	11	118	
4C	2012	Small grain cover*		0	0	0	0	0	0	
4C	2012	Corn grain	140.0 Bu	150	0	120	105	62	41	
4C	2013	Tobacco	25.0 CWT	175	0	300	108	11	118	
4C	2014	Small grain cover*		0	0	0	0	0	0	
4C	2014	Corn grain	140.0 Bu	150	0	120	105	62	41	
4H	2010	Fescue hay maint	3.0 Ton	105	0	60	114	54	156	
4H	2011	Fescue hay maint	3.0 Ton	105	0	60	114	54	156	
4H	2012	Fescue hay maint	3.0 Ton	105	0	60	114	54	156	
4H	2013	Fescue hay maint	3.0 Ton	105	0	60	114	54	156	
4H	2014	Fescue hay maint	3.0 Ton	105	0	60	114	54	156	
5C	2010	Tobacco	25.0 CWT	175	0	300	108	11	118	
5C	2011	Small grain cover*		0	0	0	0	0	0	
5C	2011	Corn grain	140.0 Bu	150	0	120	105	62	41	
5C	2012	Tobacco	25.0 CWT	175	0	300	108	11	118	
5C	2013	Small grain cover*		0	0	0	0	0	0	
5C	2013	Corn grain	140.0 Bu	150	0	120	105	62	41	
5C	2014	Tobacco	25.0 CWT	175	0	300	108	11	118	
5H	2010	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
5H	2011	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	

Field	Crop Year	Planned Crop	Yield Goal (per Acre)	N Rec (Lbs/A)	P_2O_5 Rec (Lbs/A)	K_2O Rec (Lbs/A)	N Removed (Lbs/A)	P_2O_5 Removed (Lbs/A)	K_2O Removed (Lbs/A)	Custom Fert. Rec. Source
5H	2012	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
5H	2013	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
5H	2014	Fescue hay maint	3.0 Ton	105	0	30	114	54	156	
6C	2010	Tobacco	25.0 CWT	175	30	180	108	11	118	
6C	2011	Small grain cover*		0	0	0	0	0	0	
6C	2011	Corn grain	140.0 Bu	150	0	60	105	62	41	
6C	2012	Tobacco	25.0 CWT	175	30	180	108	11	118	
6C	2013	Small grain cover*		0	0	0	0	0	0	
6C	2013	Corn grain	140.0 Bu	150	0	60	105	62	41	
6C	2014	Tobacco	25.0 CWT	175	30	180	108	11	118	
7C	2010	Small grain cover*		0	0	0	0	0	0	
7C	2010	Corn grain	140.0 Bu	150	0	0	105	62	41	
7C	2011	Tobacco	25.0 CWT	175	30	90	108	11	118	
7C	2012	Small grain cover*		0	0	0	0	0	0	
7C	2012	Corn grain	140.0 Bu	150	0	0	105	62	41	
7C	2013	Tobacco	25.0 CWT	175	30	90	108	11	118	
7C	2014	Small grain cover*		0	0	0	0	0	0	
7C	2014	Corn grain	140.0 Bu	150	0	0	105	62	41	
8C	2010	Tobacco	25.0 CWT	175	0	0	108	11	118	
8C	2011	Small grain cover*		0	0	0	0	0	0	
8C	2011	Corn grain	140.0 Bu	150	0	0	105	62	41	
8C	2012	Tobacco	25.0 CWT	175	0	0	108	11	118	
8C	2013	Small grain cover*		0	0	0	0	0	0	
8C	2013	Corn grain	140.0 Bu	150	0	0	105	62	41	
8C	2014	Tobacco	25.0 CWT	175	0	0	108	11	118	
9C	2010	Small grain cover*		0	0	0	0	0	0	
9C	2010	Corn grain	140.0 Bu	150	0	60	105	62	41	
9C	2011	Tobacco	25.0 CWT	175	0	180	108	11	118	
9C	2012	Small grain cover*		0	0	0	0	0	0	
9C	2012	Corn grain	140.0 Bu	150	0	60	105	62	41	

Field	Crop Year	Planned Crop	Yield Goal (per Acre)	N Rec (Lbs/A)	P_2O_5 Rec (Lbs/A)	K_2O Rec (Lbs/A)	N Removed (Lbs/A)	P_2O_5 Removed (Lbs/A)	K_2O Removed (Lbs/A)	Custom Fert. Rec. Source
9C	2013	Tobacco	25.0 CWT	175	0	180	108	11	118	
9C	2014	Small grain cover*		0	0	0	0	0	0	
9C	2014	Corn grain	140.0 Bu	150	0	60	105	62	41	

* Unharvested cover crop or first crop in double-crop system.
[a] Custom fertilizer recommendation.

All crop removal and fertilizer recommendations data based UT PSS 185

6.6. Manure Application Planning Calendar – June 2010 through May 2011

Field	Total Acres	Spread Acres	Predominant Soil Type	Primary 2010 Crop (Prev. Primary Crop)	Jun '10	Jul '10	Aug '10	Sep '10	Oct '10	Nov '10	Dec '10	Jan '11	Feb '11	Mar '11	Apr '11	May '11
1C	12.2	12.2	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)											2.1	
1H	18.7	18.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
2C	11.5	11.5	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
2H	21.9	21.9	Talbott SIL (TbC2 5-12%)	Fescue hay maint (Fescue hay maint)												
3C	12.9	12.9	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)											2.2	
3H	16.6	16.4	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
4C	12.8	12.8	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
4H	13.7	13.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
5C	6.0	6.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											1.1	
5H	16.8	16.6	Shouns SIL (SoC 3-12%)	Fescue hay maint (Fescue hay maint)												
6C	28.0	28.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											4.7	
7C	5.6	5.5	Sequatchie L (Se 0-2%)	Corn grain (Tobacco)												
8C	9.2	9.2	Sequoia SIL (SkC2 3-12%)	Tobacco (Corn grain)											1.6	
9C	6.7	6.7	Sensabaugh GR-L (Sa 2-5%)	Corn grain (Tobacco)												
Total	*192.7*	*192.2*							*9.7*						*11.7*	

No. indicates total loads
"X" indicates other manure apps

Manure Application Planning Calendar – June 2011 through May 2012

Field	Total Acres	Spread. Acres	Predominant Soil Type	Primary 2011 Crop (Prev. Primary Crop)	Jun '11	Jul '11	Aug '11	Sep '11	Oct '11	Nov '11	Dec '11	Jan '12	Feb '12	Mar '12	Apr '12	May '12
1C	12.2	12.2	Dewey SIL (DeC 5-12%)	Corn grain (Tobacco)												
1H	18.7	18.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
2C	11.5	11.5	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											2.0	
2H	21.9	21.9	Talbott SIL (TbC2 5-12%)	Fescue hay maint (Fescue hay maint)												
3C	12.9	12.9	Dewey SIL (DeC 5-12%)	Corn grain (Tobacco)												
3H	16.6	16.4	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
4C	12.8	12.8	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											2.2	
4H	13.7	13.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
5C	6.0	6.0	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
5H	16.8	16.6	Shouns SIL (SoC 3-12%)	Fescue hay maint (Fescue hay maint)												
6C	28.0	28.0	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
7C	5.6	5.5	Sequatchie L (Se 0-2%)	Tobacco (Corn grain)											1.0	
8C	9.2	9.2	Sequoia SIL (SkC2 3-12%)	Corn grain (Tobacco)												
9C	6.7	6.7	Sensabaugh GR-L (Sa 2-5%)	Tobacco (Corn grain)											1.2	
Total	*192.7*	*192.2*							*5.1*						*6.4*	

No. indicates total loads
"X" indicates other manure apps

Manure Application Planning Calendar – June 2012 through May 2013

Field	Total Acres	Spread. Acres	Predominant Soil Type	Primary 2012 Crop (Prev. Primary Crop)	Jun '12	Jul '12	Aug '12	Sep '12	Oct '12	Nov '12	Dec '12	Jan '13	Feb '13	Mar '13	Apr '13	May '13
1C	12.2	12.2	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)											2.1	
1H	18.7	18.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
2C	11.5	11.5	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
2H	21.9	21.9	Talbott SIL (TbC2 5-12%)	Fescue hay maint (Fescue hay maint)												
3C	12.9	12.9	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)											2.2	
3H	16.6	16.4	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
4C	12.8	12.8	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
4H	13.7	13.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
5C	6.0	6.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											1.1	
5H	16.8	16.6	Shouns SIL (SoC 3-12%)	Fescue hay maint (Fescue hay maint)												
6C	28.0	28.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											4.7	
7C	5.6	5.5	Sequatchie L (Se 0-2%)	Corn grain (Tobacco)												
8C	9.2	9.2	Sequoia SIL (SkC2 3-12%)	Tobacco (Corn grain)											1.6	
9C	6.7	6.7	Sensabaugh GR-L (Sa 2-5%)	Corn grain (Tobacco)												
Total	*192.7*	*192.2*							*9.7*						*11.7*	

No. indicates total loads
"X" indicates other manure apps

Manure Application Planning Calendar – June 2013 through May 2014

Field	Total Acres	Spread. Acres	Predominant Soil Type	Primary 2013 Crop (Prev. Primary Crop)	Jun '13	Jul '13	Aug '13	Sep '13	Oct '13	Nov '13	Dec '13	Jan '14	Feb '14	Mar '14	Apr '14	May '14
1C	12.2	12.2	Dewey SIL (DeC 5-12%)	Corn grain (Tobacco)												
1H	18.7	18.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
2C	11.5	11.5	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											2.0	
2H	21.9	21.9	Talbott SIL (TbC2 5-12%)	Fescue hay maint (Fescue hay maint)												
3C	12.9	12.9	Dewey SIL (DeC 5-12%)	Corn grain (Tobacco)												
3H	16.6	16.4	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
4C	12.8	12.8	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)											2.2	
4H	13.7	13.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
5C	6.0	6.0	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
5H	16.8	16.6	Shouns SIL (SoC 3-12%)	Fescue hay maint (Fescue hay maint)												
6C	28.0	28.0	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
7C	5.6	5.5	Sequatchie L (Se 0-2%)	Tobacco (Corn grain)											1.0	
8C	9.2	9.2	Sequoia SIL (SkC2 3-12%)	Corn grain (Tobacco)												
9C	6.7	6.7	Sensabaugh GR-L (Sa 2-5%)	Tobacco (Corn grain)											1.2	
Total	*192.7*	*192.2*							*5.1*						*6.4*	

No. indicates total loads
"X" indicates other manure apps

Manure Application Planning Calendar – June 2014 through May 2015

Field	Total Acres	Spread. Acres	Predominant Soil Type	Primary 2014 Crop (Prev. Primary Crop)	Jun '14	Jul '14	Aug '14	Sep '14	Oct '14	Nov '14	Dec '14	Jan '15	Feb '15	Mar '15	Apr '15	May '15
1C	12.2	12.2	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)												
1H	18.7	18.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
2C	11.5	11.5	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
2H	21.9	21.9	Talbott SIL (TbC2 5-12%)	Fescue hay maint (Fescue hay maint)												
3C	12.9	12.9	Dewey SIL (DeC 5-12%)	Tobacco (Corn grain)												
3H	16.6	16.4	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
4C	12.8	12.8	Decatur SIL (DcC 5-12%)	Corn grain (Tobacco)												
4H	13.7	13.7	Decatur SIL (DcC 5-12%)	Fescue hay maint (Fescue hay maint)												
5C	6.0	6.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)												
5H	16.8	16.6	Shouns SIL (SoC 3-12%)	Fescue hay maint (Fescue hay maint)												
6C	28.0	28.0	Decatur SIL (DcC 5-12%)	Tobacco (Corn grain)												
7C	5.6	5.5	Sequatchie L (Se 0-2%)	Corn grain (Tobacco)												
8C	9.2	9.2	Sequoia SIL (SkC2 3-12%)	Tobacco (Corn grain)												
9C	6.7	6.7	Sensabaugh GR-L (Sa 2-5%)	Corn grain (Tobacco)												
Total	*192.7*	*192.2*														

No. indicates total loads
"X" indicates other manure apps

6.7. Planned Nutrient Applications (Manure-spreadable Area)

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
1C	Apr 2011	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.1 Lds	12.6 Ton	12.6	32	72	34
1C	Apr 2011	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,284 Lbs	12.2	112	0	0
1C	Apr 2012	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,284 Lbs	12.2	116	0	0
1C	Apr 2013	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.1 Lds	12.6 Ton	12.6	32	72	34
1C	Apr 2013	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,284 Lbs	12.2	112	0	0
1C	Apr 2014	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,284 Lbs	12.2	116	0	0
1C	Apr 2015	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,284 Lbs	12.2	112	0	0
1C	Apr 2015	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.1 Lds	12.6 Ton	12.6	32	72	34
1H	Oct 2010	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.2 Lds	19.2 Ton	19.2	32	72	34
1H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		4,112 Lbs	18.7	70	0	0
1H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		5,607 Lbs	18.7	96	0	0
1H	Oct 2012	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.2 Lds	19.2 Ton	19.2	32	72	34
1H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Custom	210 Lbs		3,925 Lbs	18.7	67	0	0
1H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		5,607 Lbs	18.7	96	0	0
1H	Oct 2014	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.2 Lds	19.2 Ton	19.2	32	72	34
1H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	210 Lbs		3,925 Lbs	18.7	67	0	0
2C	Apr 2011	Tobacco	32-0-0	Surface broadcast	Custom	350 Lbs		4,015 Lbs	11.5	112	0	0
2C	Apr 2012	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2 Lds	12 Ton	12.0	32	72	34
2C	Apr 2012	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,015 Lbs	11.5	112	0	0
2C	Apr 2013	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,015 Lbs	11.5	116	0	0
2C	Apr 2014	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2 Lds	12 Ton	12.0	32	72	34
2C	Apr 2014	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,015 Lbs	11.5	112	0	0
2C	Apr 2015	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,015 Lbs	11.5	116	0	0
2H	Oct 2010	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.7 Lds	22.2 Ton	22.2	32	72	34
2H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		4,811 Lbs	21.9	70	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
2H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		6,561 Lbs	21.9	96	0	0
2H	Oct 2012	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.7 Lds	22.2 Ton	22.2	32	72	34
2H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		4,811 Lbs	21.9	70	0	0
2H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		6,561 Lbs	21.9	96	0	0
2H	Oct 2014	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	3.7 Lds	22.2 Ton	22.2	32	72	34
2H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		4,811 Lbs	21.9	70	0	0
3C	Apr 2011	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.2 Lds	13.2 Ton	13.2	32	72	34
3C	Apr 2011	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,526 Lbs	12.9	112	0	0
3C	Apr 2012	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,526 Lbs	12.9	116	0	0
3C	Apr 2013	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,526 Lbs	12.9	112	0	0
3C	Apr 2013	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.2 Lds	13.2 Ton	13.2	32	72	34
3C	Apr 2014	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,526 Lbs	12.9	116	0	0
3C	Apr 2015	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,526 Lbs	12.9	112	0	0
3C	Apr 2015	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.2 Lds	13.2 Ton	13.2	32	72	34
3H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,926 Lbs	16.4	96	0	0
3H	Oct 2011	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.8 Lds	16.8 Ton	16.8	32	72	34
3H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		3,612 Lbs	16.4	70	0	0
3H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,926 Lbs	16.4	96	0	0
3H	Oct 2013	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.8 Lds	16.8 Ton	16.8	32	72	34
3H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	210 Lbs		3,448 Lbs	16.4	67	0	0
3H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,926 Lbs	16.4	96	0	0
4C	Apr 2011	Tobacco	32-0-0	Surface broadcast	Custom	350 Lbs		4,466 Lbs	12.8	112	0	0
4C	Apr 2012	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.2 Lds	13.2 Ton	13.2	32	72	34
4C	Apr 2012	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,466 Lbs	12.8	112	0	0
4C	Apr 2013	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,466 Lbs	12.8	116	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
4C	Apr 2014	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.2 Lds	13.2 Ton	13.2	32	72	34
4C	Apr 2014	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		4,466 Lbs	12.8	112	0	0
4C	Apr 2015	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		4,466 Lbs	12.8	116	0	0
4H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	320 Lbs		4,394 Lbs	13.7	102	0	0
4H	Oct 2011	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.3 Lds	13.8 Ton	13.8	32	72	34
4H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		3,021 Lbs	13.7	70	0	0
4H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,119 Lbs	13.7	96	0	0
4H	Oct 2013	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.3 Lds	13.8 Ton	13.8	32	72	34
4H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		3,021 Lbs	13.7	70	0	0
4H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,119 Lbs	13.7	96	0	0
5C	Apr 2011	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.1 Lds	6.6 Ton	6.6	32	72	34
5C	Apr 2011	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		2,107 Lbs	6.0	112	0	0
5C	Apr 2012	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		2,107 Lbs	6.0	116	0	0
5C	Apr 2013	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.1 Lds	6.6 Ton	6.6	32	72	34
5C	Apr 2013	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		2,107 Lbs	6.0	112	0	0
5C	Apr 2014	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		2,107 Lbs	6.0	116	0	0
5C	Apr 2015	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		2,107 Lbs	6.0	112	0	0
5C	Apr 2015	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.1 Lds	6.6 Ton	6.6	32	72	34
5H	Oct 2010	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.8 Lds	16.8 Ton	16.8	32	72	34
5H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		3,652 Lbs	16.6	70	0	0
5H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,980 Lbs	16.6	96	0	0
5H	Oct 2012	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.8 Lds	16.8 Ton	16.8	32	72	34
5H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Supp. N	221 Lbs		3,669 Lbs	16.6	71	0	0
5H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs		4,980 Lbs	16.6	96	0	0
5H	Oct 2014	Fescue hay maint	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	2.8 Lds	16.8 Ton	16.8	32	72	34

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
5H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs		3,652 Lbs	16.6	70	0	0
6C	Apr 2011	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	4.7 Lds	28.2 Ton	28.2	32	72	34
6C	Apr 2011	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		9,817 Lbs	28.0	112	0	0
6C	Apr 2012	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		9,817 Lbs	28.0	116	0	0
6C	Apr 2013	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	4.7 Lds	28.2 Ton	28.2	32	72	34
6C	Apr 2013	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		9,817 Lbs	28.0	112	0	0
6C	Apr 2014	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		9,817 Lbs	28.0	116	0	0
6C	Apr 2015	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	4.7 Lds	28.2 Ton	28.2	32	72	34
6C	Apr 2015	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		9,817 Lbs	28.0	112	0	0
7C	Apr 2011	Tobacco	32-0-0	Surface broadcast	Custom	350 Lbs		1,925 Lbs	5.5	112	0	0
7C	Apr 2012	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		1,925 Lbs	5.5	112	0	0
7C	Apr 2012	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1 Lds	6 Ton	6.0	32	72	34
7C	Apr 2013	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		1,925 Lbs	5.5	116	0	0
7C	Apr 2014	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1 Lds	6 Ton	6.0	32	72	34
7C	Apr 2014	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		1,925 Lbs	5.5	112	0	0
7C	Apr 2015	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		1,925 Lbs	5.5	116	0	0
8C	Apr 2011	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		3,227 Lbs	9.2	112	0	0
8C	Apr 2011	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.6 Lds	9.6 Ton	9.6	32	72	34
8C	Apr 2012	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		3,227 Lbs	9.2	116	0	0
8C	Apr 2013	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		3,227 Lbs	9.2	112	0	0
8C	Apr 2013	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.6 Lds	9.6 Ton	9.6	32	72	34
8C	Apr 2014	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		3,227 Lbs	9.2	116	0	0
8C	Apr 2015	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		3,227 Lbs	9.2	112	0	0
8C	Apr 2015	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.6 Lds	9.6 Ton	9.6	32	72	34
9C	Apr 2011	Tobacco	32-0-0	Surface broadcast	Custom	350 Lbs		2,349 Lbs	6.7	112	0	0
9C	Apr 2012	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.2 Lds	7.2 Ton	7.2	32	72	34
9C	Apr 2012	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		2,349 Lbs	6.7	112	0	0
9C	Apr 2013	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		2,349 Lbs	6.7	116	0	0
9C	Apr 2014	Corn grain	Dry Stack	Truck, Not incorporated	1-yr P	1 Ton	1.2 Lds	7.2 Ton	7.2	32	72	34
9C	Apr 2014	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs		2,349 Lbs	6.7	112	0	0

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Loads, Speed or Time	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
9C	Apr 2015	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs		2,349 Lbs	6.7	116	0	0

Planned Nutrient Applications (Non-manure-spreadable Area)

Field	App. Month	Target Crop	Nutrient Source	Application Method	Rate Basis	Rate/Acre	Total Amount Applied	Acres Cov.	Avail N (Lbs/A)	Avail P_2O_5 (Lbs/A)	Avail K_2O (Lbs/A)
3H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs	69 Lbs	0.2	96	0	0
3H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs	51 Lbs	0.2	70	0	0
3H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs	69 Lbs	0.2	96	0	0
3H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	210 Lbs	48 Lbs	0.2	67	0	0
3H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs	69 Lbs	0.2	96	0	0
5H	Apr 2011	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs	40 Lbs	0.2	70	0	0
5H	Apr 2012	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs	54 Lbs	0.2	96	0	0
5H	Apr 2013	Fescue hay maint	32-0-0	Surface broadcast	1-yr N	221 Lbs	40 Lbs	0.2	71	0	0
5H	Apr 2014	Fescue hay maint	32-0-0	Surface broadcast	Custom	300 Lbs	54 Lbs	0.2	96	0	0
5H	Apr 2015	Fescue hay maint	32-0-0	Surface broadcast	Custom	220 Lbs	40 Lbs	0.2	70	0	0
7C	Apr 2011	Tobacco	32-0-0	Surface broadcast	Custom	350 Lbs	21 Lbs	0.1	112	0	0
7C	Apr 2012	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs	21 Lbs	0.1	112	0	0
7C	Apr 2013	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs	21 Lbs	0.1	116	0	0
7C	Apr 2014	Corn grain	32-0-0	Surface broadcast	Custom	350 Lbs	21 Lbs	0.1	112	0	0
7C	Apr 2015	Tobacco	33-0-0	Surface broadcast	Custom	350 Lbs	21 Lbs	0.1	116	0	0

6.8. Field Nutrient Balance (Manure-spreadable Area)

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
					N	P_2O_5	K_2O	N	P_2O_5	K_2O	N	P_2O_5	K_2O	P_2O_5	K_2O
		Acres		/Acre	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A	Lb/A
2010	1C	12.2	Tobacco	25	175	0	90	0	0	0	-175	0	-90	-11	-118
2011	1C	12.2	Small grain cover		0	0	0								
2011	1C	12.2	Corn grain	140	150	0	0	145	74	35	-5	74	35	12	-6
2012	1C	12.2	Tobacco	25	175	0	90	116	0	0	-52†	74	-55	1	-118
2013	1C	12.2	Small grain cover		0	0	0								
2013	1C	12.2	Corn grain	140	150	0	0	145	74	35	-3†	148	35	13	-6
2014	1C	12.2	Tobacco	25	175	0	90	116	0	0	-52†	148	-55	2	-118
Total	**1C**				**825**	**0**	**270**	**522**	**148**	**70**					
2010	1H	18.7	Fescue hay maint	3	105	30	30	0	0	0	-105	-30	-30	-54	-156
2011	1H	18.7	Fescue hay maint	3	105	30	30	103	74	35	-2	44	5	20	-121
2012	1H	18.7	Fescue hay maint	3	105	30	30	96	0	0	-2†	14	-25	-34	-156
2013	1H	18.7	Fescue hay maint	3	105	30	30	100	74	35	-3†	58	5	20	-121
2014	1H	18.7	Fescue hay maint	3	105	30	30	96	0	0	-2†	28	-25	-34	-156
Total	**1H**				**525**	**150**	**150**	**395**	**148**	**70**					
2010	2C	11.5	Small grain cover		0	0	0								
2010	2C	11.5	Corn grain	140	150	0	120	0	0	0	-150	0	-120	-62	-41
2011	2C	11.5	Tobacco	25	175	30	300	112	0	0	-63	-30	-300	-11	-118
2012	2C	11.5	Small grain cover		0	0	0								
2012	2C	11.5	Corn grain	140	150	0	120	145	75	36	-5	75	-84	13	-5
2013	2C	11.5	Tobacco	25	175	30	300	116	0	0	-52†	45	-300	2	-118
2014	2C	11.5	Small grain cover		0	0	0								
2014	2C	11.5	Corn grain	140	150	0	120	145	75	36	-3†	120	-84	15	-5
Total	**2C**				**800**	**60**	**960**	**518**	**150**	**72**					
2010	2H	21.9	Fescue hay maint	3	105	0	30	0	0	0	-105	0	-30	-54	-156
2011	2H	21.9	Fescue hay maint	3	105	0	30	102	73	35	-3	73	5	19	-121
2012	2H	21.9	Fescue hay maint	3	105	0	30	96	0	0	-2†	73	-25	-35	-156
2013	2H	21.9	Fescue hay maint	3	105	0	30	102	73	35	-1†	146	5	19	-121
2014	2H	21.9	Fescue hay maint	3	105	0	30	96	0	0	-2†	146	-25	-35	-156

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
		Acres		/Acre	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	P_2O_5 Lb/A	K_2O Lb/A
Total	**2H**				**525**	**0**	**150**	**396**	**146**	**70**					
2010	3C	12.9	Tobacco	25	175	0	300	0	0	0	-175	0	-300	-11	-118
2011	3C	12.9	Small grain cover		0	0	0								
2011	3C	12.9	Corn grain	140	150	0	120	145	73	35	-5	73	-85	11	-6
2012	3C	12.9	Tobacco	25	175	0	300	116	0	0	-52†	73	-300	0	-118
2013	3C	12.9	Small grain cover		0	0	0								
2013	3C	12.9	Corn grain	140	150	0	120	145	73	35	-3†	146	-85	11	-6
2014	3C	12.9	Tobacco	25	175	0	300	116	0	0	-52†	146	-300	0	-118
Total	**3C**				**825**	**0**	**1140**	**522**	**146**	**70**					
2010	3H	16.4	Fescue hay maint	3	105	0	0	0	0	0	-105	0	0	-54	-156
2011	3H	16.4	Fescue hay maint	3	105	0	0	96	0	0	-9	0	0	-54	-156
2012	3H	16.4	Fescue hay maint	3	105	0	0	103	74	35	-2	74	35	20	-121
2013	3H	16.4	Fescue hay maint	3	105	0	0	96	0	0	-2†	74	35	-34	-156
2014	3H	16.4	Fescue hay maint	3	105	0	0	100	74	35	-3†	148	70	20	-121
Total	**3H**				**525**	**0**	**0**	**395**	**148**	**70**					
2010	4C	12.8	Small grain cover		0	0	0								
2010	4C	12.8	Corn grain	140	150	0	120	0	0	0	-150	0	-120	-62	-41
2011	4C	12.8	Tobacco	25	175	0	300	112	0	0	-63	0	-300	-11	-118
2012	4C	12.8	Small grain cover		0	0	0								
2012	4C	12.8	Corn grain	140	150	0	120	145	74	35	-5	74	-85	12	-6
2013	4C	12.8	Tobacco	25	175	0	300	116	0	0	-52†	74	-300	1	-118
2014	4C	12.8	Small grain cover		0	0	0								
2014	4C	12.8	Corn grain	140	150	0	120	145	74	35	-3†	148	-85	13	-6
Total	**4C**				**800**	**0**	**960**	**518**	**148**	**70**					
2010	4H	13.7	Fescue hay maint	3	105	0	60	0	0	0	-105	0	-60	-54	-156
2011	4H	13.7	Fescue hay maint	3	105	0	60	102	0	0	-3	0	-60	-54	-156
2012	4H	13.7	Fescue hay maint	3	105	0	60	102	72	34	-3	72	-26	18	-122
2013	4H	13.7	Fescue hay maint	3	105	0	60	96	0	0	-2†	72	-60	-36	-156
2014	4H	13.7	Fescue hay maint	3	105	0	60	102	72	34	-1†	144	-26	18	-122

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
		Acres		/Acre	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	P_2O_5 Lb/A	K_2O Lb/A
Total	**4H**				**525**	**0**	**300**	**402**	**144**	**68**					
2010	5C	6.0	Tobacco	25	175	0	300	0	0	0	-175	0	-300	-11	-118
2011	5C	6.0	Small grain cover		0	0	0								
2011	5C	6.0	Corn grain	140	150	0	120	147	79	37	-3	79	-83	17	-4
2012	5C	6.0	Tobacco	25	175	0	300	116	0	0	-51†	79	-300	6	-118
2013	5C	6.0	Small grain cover		0	0	0								
2013	5C	6.0	Corn grain	140	150	0	120	147	79	37	-1†	158	-83	23	-4
2014	5C	6.0	Tobacco	25	175	0	300	116	0	0	-51†	158	-300	12	-118
Total	**5C**				**825**	**0**	**1140**	**526**	**158**	**74**					
2010	5H	16.6	Fescue hay maint	3	105	0	30	0	0	0	-105	0	-30	-54	-156
2011	5H	16.6	Fescue hay maint	3	105	0	30	102	73	34	-3	73	4	19	-122
2012	5H	16.6	Fescue hay maint	3	105	0	30	96	0	0	-2†	73	-26	-35	-156
2013	5H	16.6	Fescue hay maint	3	105	0	30	103	73	34	0†	146	4	19	-122
2014	5H	16.6	Fescue hay maint	3	105	0	30	96	0	0	-2†	146	-26	-35	-156
Total	**5H**				**525**	**0**	**150**	**397**	**146**	**68**					
2010	6C	28.0	Tobacco	25	175	30	180	0	0	0	-175	-30	-180	-11	-118
2011	6C	28.0	Small grain cover		0	0	0								
2011	6C	28.0	Corn grain	140	150	0	60	144	72	34	-6	72	-26	10	-7
2012	6C	28.0	Tobacco	25	175	30	180	116	0	0	-52†	42	-180	-1	-118
2013	6C	28.0	Small grain cover		0	0	0								
2013	6C	28.0	Corn grain	140	150	0	60	144	72	34	-4†	114	-26	10	-7
2014	6C	28.0	Tobacco	25	175	30	180	116	0	0	-52†	84	-180	-1	-118
Total	**6C**				**825**	**90**	**660**	**520**	**144**	**68**					
2010	7C	5.5	Small grain cover		0	0	0								
2010	7C	5.5	Corn grain	140	150	0	0	0	0	0	-150	0	0	-62	-41
2011	7C	5.5	Tobacco	25	175	30	90	112	0	0	-63	-30	-90	-11	-118
2012	7C	5.5	Small grain cover		0	0	0								
2012	7C	5.5	Corn grain	140	150	0	0	147	79	37	-3	79	37	17	-4
2013	7C	5.5	Tobacco	25	175	30	90	116	0	0	-51†	49	-53	6	-118

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
		Acres		/Acre	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	P_2O_5 Lb/A	K_2O Lb/A
2014	7C	5.5	Small grain cover		0	0	0								
2014	7C	5.5	Corn grain	140	150	0	0	147	79	37	-1†	128	37	23	-4
Total	**7C**				**800**	**60**	**180**	**522**	**158**	**74**					
2010	8C	9.2	Tobacco	25	175	0	0	0	0	0	-175	0	0	-11	-118
2011	8C	9.2	Small grain cover		0	0	0								
2011	8C	9.2	Corn grain	140	150	0	0	145	75	35	-5	75	35	13	-6
2012	8C	9.2	Tobacco	25	175	0	0	116	0	0	-52†	75	35	2	-118
2013	8C	9.2	Small grain cover		0	0	0								
2013	8C	9.2	Corn grain	140	150	0	0	145	75	35	-3†	150	70	15	-6
2014	8C	9.2	Tobacco	25	175	0	0	116	0	0	-52†	150	70	4	-118
Total	**8C**				**825**	**0**	**0**	**522**	**150**	**70**					
2010	9C	6.7	Small grain cover		0	0	0								
2010	9C	6.7	Corn grain	140	150	0	60	0	0	0	-150	0	-60	-62	-41
2011	9C	6.7	Tobacco	25	175	0	180	112	0	0	-63	0	-180	-11	-118
2012	9C	6.7	Small grain cover		0	0	0								
2012	9C	6.7	Corn grain	140	150	0	60	146	77	37	-4	77	-23	15	-4
2013	9C	6.7	Tobacco	25	175	0	180	116	0	0	-51†	77	-180	4	-118
2014	9C	6.7	Small grain cover		0	0	0								
2014	9C	6.7	Corn grain	140	150	0	60	146	77	37	-2†	154	-23	19	-4
Total	**9C**				**800**	**0**	**540**	**520**	**154**	**74**					

Field Nutrient Balance (Non-manure-spreadable Area)

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
		Acres		/Acre	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	P_2O_5 Lb/A	K_2O Lb/A
2010	3H	0.2	Fescue hay maint	3	105	0	0	0	0	0	-105	0	0	-54	-156
2011	3H	0.2	Fescue hay maint	3	105	0	0	96	0	0	-9	0	0	-54	-156
2012	3H	0.2	Fescue hay maint	3	105	0	0	70	0	0	-35	0	0	-54	-156
2013	3H	0.2	Fescue hay maint	3	105	0	0	96	0	0	-9	0	0	-54	-156
2014	3H	0.2	Fescue hay maint	3	105	0	0	67	0	0	-38	0	0	-54	-156

Year	Field	Size	Crop	Yield Goal	Fertilizer Recs[1]			Nutrients Applied[2]			Balance After Recs[3]			Balance After Removal[4]	
		Acres		/Acre	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	N Lb/A	P_2O_5 Lb/A	K_2O Lb/A	P_2O_5 Lb/A	K_2O Lb/A
Total	**3H**				**525**	**0**	**0**	**329**	**0**	**0**					
2010	5H	0.2	Fescue hay maint	3	105	0	30	0	0	0	-105	0	-30	-54	-156
2011	5H	0.2	Fescue hay maint	3	105	0	30	70	0	0	-35	0	-30	-54	-156
2012	5H	0.2	Fescue hay maint	3	105	0	30	96	0	0	-9	0	-30	-54	-156
2013	5H	0.2	Fescue hay maint	3	105	0	30	71	0	0	-34	0	-30	-54	-156
2014	5H	0.2	Fescue hay maint	3	105	0	30	96	0	0	-9	0	-30	-54	-156
Total	**5H**				**525**	**0**	**150**	**333**	**0**	**0**					
2010	7C	0.1	Small grain cover		0	0	0								
2010	7C	0.1	Corn grain	140	150	0	0	0	0	0	-150	0	0	-62	-41
2011	7C	0.1	Tobacco	25	175	30	90	112	0	0	-63	-30	-90	-11	-118
2012	7C	0.1	Small grain cover		0	0	0								
2012	7C	0.1	Corn grain	140	150	0	0	112	0	0	-38	0	0	-62	-41
2013	7C	0.1	Tobacco	25	175	30	90	116	0	0	-59	-30	-90	-11	-118
2014	7C	0.1	Small grain cover		0	0	0								
2014	7C	0.1	Corn grain	140	150	0	0	112	0	0	-38	0	0	-62	-41
Total	**7C**				**800**	**60**	**180**	**452**	**0**	**0**					

[1] Fertilizer Recs are the crop fertilizer recommendations. The N rec accounts for any N credit from previous legume crop.

[2] Nutrients Applied are the nutrients expected to be available to the crop from that year's manure applications plus nutrients from that year's commercial fertilizer applications and nitrates from irrigation water. With a double-crop year, the total nutrients applied for both crops and the year's balances are listed on the second crop's line.

[3] For N, Nutrients Applied minus Fertilizer Recs for indicated crop year. Also includes amount of residual N expected to become available that year from prior years' manure applicaitions. For P_2O_5 and K_2O, Nutrients Applied minus Fertilizer Recs *through* the indicated crop year, with positive balances carried forward to subsequent years. Negative values indicate a potential need to apply additional nutrients.

[4] Nutrients Applied minus amount removed by harvested portion of crop through the indicated year. Positive balances are carried forward to subsequent years.

[¤] Indicates a custom fertilizer recommendation in the Fertilizer Recs column.

[a] Indicates in the Balance After Recs N column that the legume crop is assumed to utilize some or all of the supplied N.

[†] Indicates in the Balance After Recs N column that the value includes residual N expected to become available that year from prior years' manure applications.

6.9. Manure Inventory Annual Summary

Manure Source	Plan Period	On Hand at Start of Period	Total Generated	Total Imported	Total Trans-ferred In	Total Applied	Total Exported	Total Trans-ferred Out	On Hand at End of Period	Units
House 1	Jun '10 - May '11	50	192	0	0	0	0	226	16	Ton
House 2	Jun '10 - May '11	50	192	0	0	0	0	226	16	Ton
House 3	Jun '10 - May '11	50	192	0	0	0	0	226	16	Ton
House 4	Jun '10 - May '11	50	192	0	0	0	0	226	16	Ton
Dry Stack	Jun '10 - May '11	0	0	0	904	128	776	0	0	Ton
All Sources	**Jun '10 - May '11**	**200**	**768**	**0**	**904**	**128**	**776**	**904**	**64**	**Ton**
House 1	Jun '11 - May '12	16	192	0	0	0	0	192	16	Ton
House 2	Jun '11 - May '12	16	192	0	0	0	0	192	16	Ton
House 3	Jun '11 - May '12	16	192	0	0	0	0	192	16	Ton
House 4	Jun '11 - May '12	16	192	0	0	0	0	192	16	Ton
Dry Stack	Jun '11 - May '12	0	0	0	768	69	699	0	0	Ton
All Sources	**Jun '11 - May '12**	**64**	**768**	**0**	**768**	**69**	**699**	**768**	**64**	**Ton**
House 1	Jun '12 - May '13	16	192	0	0	0	0	192	16	Ton
House 2	Jun '12 - May '13	16	192	0	0	0	0	192	16	Ton
House 3	Jun '12 - May '13	16	192	0	0	0	0	192	16	Ton
House 4	Jun '12 - May '13	16	192	0	0	0	0	192	16	Ton
Dry Stack	Jun '12 - May '13	0	0	0	768	128	640	0	0	Ton
All Sources	**Jun '12 - May '13**	**64**	**768**	**0**	**768**	**128**	**640**	**768**	**64**	**Ton**
House 1	Jun '13 - May '14	16	192	0	0	0	0	192	16	Ton
House 2	Jun '13 - May '14	16	192	0	0	0	0	192	16	Ton
House 3	Jun '13 - May '14	16	192	0	0	0	0	192	16	Ton
House 4	Jun '13 - May '14	16	192	0	0	0	0	192	16	Ton
Dry Stack	Jun '13 - May '14	0	0	0	768	69	699	0	0	Ton
All Sources	**Jun '13 - May '14**	**64**	**768**	**0**	**768**	**69**	**699**	**768**	**64**	**Ton**
House 1	Jun '14 - May '15	16	192	0	0	0	0	192	16	Ton
House 2	Jun '14 - May '15	16	192	0	0	0	0	192	16	Ton
House 3	Jun '14 - May '15	16	192	0	0	0	0	192	16	Ton
House 4	Jun '14 - May '15	16	192	0	0	0	0	192	16	Ton
Dry Stack	Jun '14 - May '15	0	0	0	768	128	640	0	0	Ton
All Sources	**Jun '14 - May '15**	**64**	**768**	**0**	**768**	**128**	**640**	**768**	**64**	**Ton**

6.10. Fertilizer Material Annual Summary

Product Analysis	Plan Period	Product Needed Jun - Aug	Product Needed Sep - Dec	Product Needed Jan - May	Total Product Needed	Units
32-0-0	Jun '10 - May '11	0	0	58,741	58,741	Lbs
32-0-0	Jun '11 - May '12	0	0	36,662	36,662	Lbs
33-0-0	Jun '11 - May '12	0	0	23,961	23,961	Lbs
32-0-0	Jun '12 - May '13	0	0	45,519	45,519	Lbs
33-0-0	Jun '12 - May '13	0	0	12,776	12,776	Lbs
32-0-0	Jun '13 - May '14	0	0	36,495	36,495	Lbs
33-0-0	Jun '13 - May '14	0	0	23,961	23,961	Lbs
32-0-0	Jun '14 - May '15	0	0	45,503	45,503	Lbs
33-0-0	Jun '14 - May '15	0	0	12,776	12,776	Lbs

6.11. Whole-farm Nutrient Balance (Manure-spreadable Area)

	N (Lbs)	P_2O_5 (Lbs)	K_2O (Lbs)
Total Manure Nutrients on Hand at Start of Plan[1]	12,860	14,360	6,820
Total Manure Nutrients Collected[2]	246,912	275,712	130,944
Total Manure Nutrients Imported[3]	0	0	0
Total Manure Nutrients Exported[4]	222,015	247,911	117,740
Total Manure Nutrients on Hand at End of Plan[5]	4,115	4,595	2,182
Total Manure Nutrients Applied[6]	33,485	37,670	17,789
Available Manure Nutrients Applied[7]	19,418	37,670	17,789
Commercial Fertilizer Nutrients Applied[8]	95,403	0	0
Available Nutrients Applied[9]	114,821	37,670	17,789
Nutrient Utilization Potential[10]	131,469	44,145	146,433
Nutrient Balance of Spreadable Acres[11*]	-16,648	-6,475	-128,644
Average Nutrient Balance per Spreadable Acre per Year[12*]	-17	-7	-134

1. Values indicate total manure nutrients present in storage(s) at the beginning of the plan.
2. Values indicate total manure nutrients collected on the farm.
3. Values indicate total manure nutrients imported onto the farm.
4. Values indicate total manure nutrients exported from the farm to an external operation.
5. Values indicate total manure nutrients present in storage(s) at the end of plan.
6. Values indicate total nutrients present in land-applied manure. Losses due to rate, timing and method of application are not included in these values.
7. Values indicate available manure nutrients applied on the farm based on rate, time and method of application. These values are based on the total manure nutrients applied (row 6) after accounting for state-specific nutrient losses due to rate, time and method of application.
8. Values indicate nutrients applied as commercial fertilizers and nitrates contained in irrigation water.
9. Values are the sum of available manure nutrients applied (row 7) and commercial fertilizer nutrients applied (row 8).
10. Values indicate nutrient utilization potential of crops grown. For N the value generally is based on crop N recommendation for non-legume crops and crop N uptake or other state-imposed limit for N application rates for legumes. P_2O_5 and K_2O values generally are based on fertilizer recommendations or crop removal (whichever is greatest).
11. Values indicate available nutrients applied (row 9) minus crop nutrient utilization potential (row 10). Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
12. Values indicate average per acre nutrient balance. Values are calculated by dividing nutrient balance of spreadable acres (row 11) by the number of spreadable acres in plan and by the length of the plan in years. Negative values indicate additional average per acre nutrient utilization potential and positive values indicate average per acre over-application.

* Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. For example, plans that include legume crops often will not utilize the full N utilization potential for legume crops if manure can be applied to non-legume crops that require N for optimum yield. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was not developed properly. For example, producers may be allowed to apply N-based application rates of manure to fields with low soil test P values or fields with a low potential P-loss risk based on the risk assessment tool used by the state. Negative values for P_2O_5 and K_2O indicate that planned applications to some fields are less than crop removal rates.

Whole-farm Nutrient Balance (Non-manure-spreadable Area)

	N (Lbs)	P_2O_5 (Lbs)	K_2O (Lbs)
Commercial Fertilizer Nutrients Applied[1]	204	0	0
Nutrient Utilization Potential[2]	263	4	38
Nutrient Balance of Non-spreadable Acres[3*]	-59	-4	-38
Average Nutrient Balance per Non-spreadable Acre per Year[4*]	-25	-2	-16

1. Values indicate nutrients applied as commercial fertilizers and nitrates contained in irrigation water.
2. Values indicate nutrient utilization potential of crops grown based on crop fertilizer recommendations.

3. Values indicate commercial fertilizer nutrients applied (row 1) minus crop nutrient utilization potential (row 2). Negative values indicate additional nutrient utilization potential and positive values indicate over-application.
4. Values indicate average per acre nutrient balance. Values are calculated by dividing nutrient balance of non-spreadable acres (row 3) by number of non-spreadable acres in plan. Negative values indicate additional average per acre nutrient utilization potential and positive values indicate average per acre over-application.

* Non-trivial, positive values for N indicate that the plan was not properly developed. Negative values for N indicate additional nutrient utilization potential which may or may not be intentional. Positive values for P_2O_5 and/or K_2O do not necessarily indicate that the plan was not developed properly. For example, multiple year applications may have been planned during the final plan year(s) and these nutrients will not be utilized by crops in the current plan. Negative values for P_2O_5 and K_2O indicate that applications to some fields may have been delayed to allow the producer to apply the nutrients in accordance with their fertilization schedule.

Section 7. Record Keeping

This section includes a list of key records that the operator should keep in order to document and verify implementation of the procedures in this CNMP. Records should be kept for a minimum of 5 years, or for the length of the contract, rotation or permit, whichever is longer, for each field where manure is applied.

These general records include but are not limited to:

- Soil test results
- Weather and soil conditions 24 hours prior to, during, and 24 hours after application of manure, chemicals and pesticides
- Documentation (can be verbal) of arrangements for land injection on land not owned by the grower
- Type, quantities, and sources of all nutrients generated and collected
- Type, quantities, and sources of all nutrients applied to each field
- Dates of manure applications
- Analysis of manure prior to application and test method used
- Analysis of the manure transferred, where applicable
- Dates manure was transferred, where applicable and to whom
- Amount of manure transferred, where applicable
- Inspection reports
- Preside Dress Soil Nitrate Testing (PSNT), where applicable
- Operation and Maintenance records of conservation practices and equipment
- Restricted pesticides used to meet label requirements
- Equipment Calibration records
- Crops planted, tillage methods, and dates planted
- Crop harvest dates and yields
- Conservation practices and management activities and implemented
- Adjustments to the nutrient management plan based on records and changes in farming operations as appropriate.
- Changes to the CNMP
- Weekly check of volume left in pit
- Annual visual inspection of retention structure (the pits), animal holding areas, if applicable and land application areas.
- Records of mortalities and how managed

Section 8. Actual Test Results

A&L Analytical Laboratories, Inc.
2790 Whitten Rd Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

LAND APPLICATION ANALYSIS

Client:

Ted Cope
891 Stanley Valley Rd
Rogersville, Tn 37857

Grower:
Analytical Testing

PO #:

Report No: 10-112-0204
Cust No: 20375
Date Printed: 05/04/2010
Date Recd: 4/22/2010

Page: 1 of 1

Lab Number: 62842 **Sample Id:** Chicken Litter

Test	Analysis		Pounds Per Ton	
	As Received	Dry Basis	As Received	Dry Basis
Nitrogen, N %	3.22	3.72	64.4	74.5
Ammoniacal-N %	0.690	0.797	13.8	16.0
Phosphorus, P %	1.56	1.80	71.8 P_2O_5	83.0
Potassium, K %	1.42	1.64	34.1 K_2O	39.4
Sulfur, S				
Magnesium, Mg				
Calcium, Ca				
Sodium, Na				
Iron, Fe				
Aluminum, Al				
Manganese, Mn				
Copper, Cu				
Zinc, Zn				
Boron, B				

Test	Result
Moisture %	13.5
Solid %	86.5

Additional Information	Result
Type	Dry Basis

Additional Tests	Result
Ammoniacal-N , %	0.690

Comments:

RMMA Recommended Methods of Manure Analysis, Peters et al, 2002, In Press
SW USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

THE UNIVERSITY of TENNESSEE | Extension

SOIL TEST REPORT

Deborah K. Joines
Manager
Soil, Plant and Pest Center
5201 Marchant Drive
Nashville, TN 37211-5112
(615) 832-5850
soilplantpestcenter@utk.edu

Ted Cope
891 Stanley Valley Rd

Rogersville, TN 37857

Date Tested: 11/18/2009

County: Hawkins **Lab Number:** 376055

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID H1 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.1		29	*M*	116	*M*	1696	163								

Organic Matter %

Soluble Salts PPM**

RECOMMENDATIONS

H1 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 30 / 30 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 40-80 / 80-160 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

County: Hawkins

Lab Number: 376056

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID H2 (Pounds Per Acre)

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.0	7.5	95	*H*	137	*M*	1601	169								
	Organic Matter %	Soluble Salts PPM**													

RECOMMENDATIONS

H2 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 30 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 80-160 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins

Lab Number: 376057

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID H3 (Pounds Per Acre)

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.1		211	*V*	256	*H*	1681	168								
	Organic Matter %	Soluble Salts PPM**													

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

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RECOMMENDATIONS

H3 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources contalning urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins — **Lab Number:** 376058

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID H5 — **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.1		155	V	132	M	1495	145								
	Organic Matter %	Soluble Salts PPM**													

RECOMMENDATIONS

H5 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 30 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 80-160 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376059

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID H4 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.2		90	*H*	80	*L*	2589	173								

Organic Matter %

Soluble Salts PPM**

RECOMMENDATIONS

H4 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 60 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 120-240 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376060

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C1 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.4		189	*V*	161	*H*	3847	265								
	Organic Matter %	Soluble Salts PPM**													

RECOMMENDATIONS

C1 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376061

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C2 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
5.6	7.6	51	*H*	31	*L*	987	91								
	Organic Matter %	Soluble Salts PPM**													

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

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Visit our web site at http://soilplantandpest.utk.edu for additional information.

RECOMMENDATIONS

C2 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 60 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 120-240 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins — **Lab Number:** 376062

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C3 — **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
5.9	7.3	149	V	39	L	2242	162								
	Organic Matter %	Soluble Salts PPM**													

RECOMMENDATIONS

C3 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 60 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 120-240 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376063

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C4 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.0	7.6	180	V	48	L	2633	188								
	Organic Matter %	Soluble Salts PPM**													

RECOMMENDATIONS

C4 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 60 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 120-240 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

***Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)**

****PPM = Parts per Million**

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376064

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C5 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
5.9	7.5	180	*V*	63	*L*	2404	182								

Organic Matter %; Soluble Salts PPM**

RECOMMENDATIONS

C5 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 60 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 120-240 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376065

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C6 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
5.9	7.6	94	*H*	134	*M*	1722	206								

Organic Matter %; Soluble Salts PPM**

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

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RECOMMENDATIONS

C6 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 30 pounds per acre

Limestone: 2 tons per acre

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 80-160 pounds per acre

Limestone: 2 tons per acre

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins — **Lab Number:** 376066

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C7 — **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.3		44	*H*	293	*H*	2405	185								

Organic Matter %	Soluble Salts PPM**

RECOMMENDATIONS

C7 — **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

***Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)**

****PPM = Parts per Million**

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376067

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C8 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.4		238	V	420	V	2963	200								

Organic Matter %	Soluble Salts PPM**

RECOMMENDATIONS

C8 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 0 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

Visit our web site at http://soilplantandpest.utk.edu for additional information.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376068

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID C9 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
6.7		249	*V*	151	*M*	3235	217								

Organic Matter %; Soluble Salts PPM**

RECOMMENDATIONS

C9 **Fertilizer/Lime Application Rate and Timing**

Grass-Clover Pasture b. Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 0-90 / 0 / 30 pounds per acre

Limestone: Lime is not recommended at this time

The nitrogen should be omitted on pastures containing more than 30 percent clover in the spring, otherwise if clover is less than 30 percent of the pasture apply 30 pounds of nitrogen per acre between March 1-30. For fall stockpiling of fescue apply 60 pounds of N per acre August 15 to September 15 to all fescue-clover mixtures.

Apply recommended amounts of phosphate and potash in one application anytime during the year. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

Hybrid Bermudagrass Hay - Maintenance

$N / P_2O_5 / K_2O$

Nitrogen/Phosphate/Potash: 120-400 / 0 / 80-160 pounds per acre

Limestone: Lime is not recommended at this time

The rate of nitrogen topdressing depends on the need for forage. Apply 60 to 100 pounds of the nitrogen May 1 and again after each cutting when conditions favor regrowth. Four cuttings are often possible. If the higher rates of nitrogen are used, use the higher rates of phosphate and potash. Broadcast all lime and fertilizer on the soil surface. If more than 4 tons of lime per acre are required, apply only 4 tons of lime per acre and re-test after one year.

When nitrogen sources containing urea are not incorporated, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall. If urea is the nitrogen source, some loss of nitrogen may occur if applied to moist soils followed by three or more days of rapidly drying conditions without rainfall.

Apply recommended amounts of phosphate and potash in one application any time during the year.

County: Hawkins **Lab Number:** 376069

Mehlich 1 SOIL TEST RESULTS and RATINGS*

Sample ID 21 **(Pounds Per Acre)**

Water pH	Buffer Value	P Phosphorus		K Potassium		Ca Calcium	Mg Magnesium	Zn Zinc	Cu Copper	Fe Iron	Mn Manganese	B Boron	Na Sodium	S Sulfur	Nitrates (ppm)
5.8	7.5	38	*H*	127	*M*	1142	122								

Organic Matter %; Soluble Salts PPM**

*Ratings: Indicates relative availability of nutrients to plants. (See back of this form for detailed explanation.)

**PPM = Parts per Million

If you have questions about these recommendations, contact your County Extension office.

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Section 9. Closure Plan

Ted Cope will remove all waste from the stack pad upon closure of this facility. Manure will be applied based on the current nutrient management plan upon that future date.

Outline for Closure Plan

Purpose
Provide a brief description to the owner(s)/operator(s), of where the plan is to be submitted, and the standards/criteria by which the plan will be prepared to meet, if, and when, the site is closed.

Location
Provide site map, direction to the site, and an indication of the watershed where the runoff flows.

Description of the Operation
Describe the general soils at the site(s), the acres available to receive manure, indicate soil test results, RUSLE, LI, setback/buffer requirements, etc.

Determine the total volume of manure to be removed, and obtain a current manure test results.

Closure Description
Describe in detail how to close the facility all manure that will be land applied as instructed that a revised Nutrient Management Plan be prepared.

Assessment and Documentation of Site (land where manure) will be applied

1. Obtain a current soil test on each field receiving manure.
2. Run the Phosphorus Index (PI) on each field receiving manure.
3. Identify and delineate sensitive areas.
4. Determine the extent to which cultural resources will be impacted.
5. Determine the existing level of conservation treatment on each field where manure will be applied.
6. Determine if additional conservation treatment is needed to meet criteria on each field where manure will be applied.
7. Run RUSLE on each field receiving letter.
8. Provide Leaching Index (LI) results (if applicable for each field receiving letter.

Allocations
Allocate manure according to NRCS criteria outlined in the NRCS Waste Utilization Standard, Code 633 and manage nutrients according to NRCS Nutrient Management Standard, Code 590, based upon updated manure, letter and soil tests, crop(s) where materials will be applied.

In the event that Ted Cope broiler production at this location ceases, the following will be done within 360 days:

- Any litter currently in storage at the time of closure will be removed and spread on the farm or spread elsewhere according to my Nutrient Management Plan.
- All litter in houses will be removed and spread on the farm or spread elsewhere according to my Nutrient Management Plan.
- All land application of litter will be done at application rates calculated in the Nutrient Management Plan.
- The most current litter analysis will be provided to anyone removing litter from the farm.
- Any dead birds in the houses at the time of closure will be incinerated.

Section 10. References

10.1. Publications

Crop Fertilizer Recommendations

"Lime and Fertilizer Recommendations for the Various Crops of Tennessee," BEES Info #100, Aug 2008
http://soilplantandpest.utk.edu/publications/soilfertilizerpubs.htm

"Lime and Fertilizer Recommendations for the Various Crops of Tennessee," BEES Info #100, Feb 2009
http://soilplantandpest.utk.edu/publications/soilfertilizerpubs.htm

Manure Application Setback Features/Distances

Nutrient Management Standard 590
http://efotg.nrcs.usda.gov/references/public/TN/Nutrient_Management_(590)_Standard.doc

TN DEQ Rule 1200-4-5-.14(17)(d)
http://www.state.tn.us/sos/rules/1200/1200-04/1200-04-05.pdf

Manure Nutrient Availability

"Manure Application Management," Tables 3 and 4, Tennessee Extension, PB1510, 2/94
http://wastemgmt.ag.utk.edu/ExtensionProjects/extension_publications.htm

Phosphorus Assessment

"Tennessee Phosphorus Index," Tennessee NRCS, Nov. 2001

Practice Standards

Tennessee NRCS Nutrient Management Standard (590), Jan. 2003
http://efotg.nrcs.usda.gov/references/public/TN/Nutrient_Management_(590)_Standard.doc

10.2. Software and Data Sources

MMP Version	MMP 0.2.9.0
MMP Plan File	TN_Cope.mmp 5/27/2010 10:29:21 PM
MMP Initialization File for Tennessee	6/4/2009
MMP Soils File for Tennessee	11/17/2009
Phosphorus Assessment Tool	2009.02.20
NRCS Conservation Plan(s)	n/a
RUSLE2 Library	Version: 1.32.3.0 Build: Dec 17 2007 Science: 20061020
RUSLE2 Database	Cope_RUSLE2mosesdb.gdb

10.3. Operation and Maintenance

General

Operation and maintenance of structural, non-structural, and land treatment measures requires effort and expenditures throughout the life of the practice(s) to maintain safe conditions and assure proper functioning. Operation includes the administration, management, and performance of non-maintenance actions needed to keep a completed practice safe and functioning as planned. Maintenance includes work to prevent deterioration of practices, repairing damage, or replacement of the practice(s) if one or more components fail. Listed below is the operation and maintenance plan for the structural, non-structural, and land treatment measures for this operation.

Concrete in the buildings should be checked for signs of cracking. If cracks are discovered they must be repaired immediately. Hairline cracks are expected and should pose no problem.

Waste Storage Facility –Roofed Storage Facilities

Trusses/roof supports shall be examined during/after snowfall and high wind events. Excessive snow loads may require removal. Damage from high winds may cause structural damage to the truss/roof supports. Roof materials shall be replaced as wear/leakage occurs. Metal roofing may require periodic painting. Gutters and Downspouts shall be maintained.

Heavy Use Area Protection

This practice is applied every year to protect area(s) from soil erosion by maintaining vegetative cover around houses, barns, roads, etc. These areas will have pests controlled as needed and will be fertilized at maintenance levels for optimum growth.

Limit access to the area during poor soil / weather situations to protect the cover.
Inspect the heavy use area after significant storms and repair damaged areas as soon as practical.

Pasture Management

The pastures for the dry cows shall be managed for optimal growth of vegetation. The pastures are divided into sub-pastures as needed. The pastures will be managed in such a manner that will result in a well maintained stand of grass. Grazing of pastures should follow the recommendations provided by NRCS.

The actual time that cows are on pastures shall be adjusted based on production of forage and amount of nutrients applied. It is suggested that a ledger be kept to record the number of cows and time kept on individual pasture areas.

The pastures must be managed to prevent denuded areas from developing. This will be accomplished using gates and fencing to confine cows to specific areas. Portable feeders, portable shades, electric fence and portable water troughs are ways to help distribute the cows, and ultimately, evenly spreading the nutrients over the pastures. Electric twine can be used to subdivide the pastures and restrict grazing to the desired areas. This will help prevent the formation of denuded areas. A daily use record should be maintained in order to ensure uniform distribution of the nutrients. If a denuded area starts to develop, immediate corrective measures must be taken. Corrective actions may include, but not be limited to, temporarily fencing off the area, reseeding the area, and relocating the cause of the denuded area if applicable. Any buildup of manure (i.e., around gates and feeders) should be removed, analyzed for N, P and K then spread according to the nutrient management plan.

Supplemental fertilizer may be needed to maintain good vegetation conditions in the pastures. A soil test will determine which nutrients are lacking and the amount to apply. Only apply the amount of nutrients recommended by the soil test and in accordance with the nutrient management plan.

Animal Trails and Walkways

The walkways should be cleaned frequently to prevent a buildup of manure and reshaped as necessary to facilitate the removal of surface runoff. Fences and gates shall be used to control the access and movement of cattle using the animal trails and walkways and to prevent the creation of ruts in the trails and walkways. Cows will be moved non-stop between the barn and the pastures and not allowed to loaf or rest on the walkway.

The solids removed from any trails or walkways shall be analyzed for N, P_2O_5, and K_2O as they are removed and before they are spread.

Manure Spreader

Collecting a sample from the manure spreader is one of the preferred methods of collecting a solid manure sample because it represents what is being applied to the field. In addition, by the time manures have been scraped, collected, and loaded into a manure spreader, reasonable mixing has been performed. However, you should still collect at least 5 sub-samples following the collection procedures for the solids separator.

Nutrient Management

When applying waste or commercial fertilizer, calibrate application equipment to ensure that applied rates at recommended rates. It is important to avoid unnecessary exposure to chemical fertilizers and organic wastes. Protective clothing, respirator, gloves and footwear shall be worn when appropriate. When cleaning equipment after nutrient application, residual fertilizers or wastes shall be removed and saved in an appropriate manner.

- Keep records to document implementation activities. (Refer to PQC for guidance for the kind of records that should be kept).
- Calibrate manure application equipment according to procedures outlined in this section.
- Dispose/recycle nutrient containers according to state and local guidelines or regulations.
- Apply nutrients according to the procedures outlined in Section 6.
- Delay application of manure if precipitation capable of producing runoff is anticipated within 24 hours of the application event.
- Monitor soil test phosphorus levels and adjust nutrient application rates accordingly.
- Do not apply manure and wastewater on saturated, frozen and/or frequently flooded soils.
- Adhere to no-application setbacks as outlined on the conservation plan maps in Section 4.

Pesticide Management

The owner/operator is responsible for the proper application and storage of pesticides including calibration and maintenance of all equipment used in application of pesticides. No pesticides are stored on-site. Chemical fertilizers are purchased on an as needed basis. In addition, moveable mixing station is used and long time use of a specific mixing site is avoided therefore minimizing ground contamination. The following should be addressed, according to pesticide labels, in order to minimize negative impacts to the environment:

- Be trained and licensed to apply restricted pesticides.
- Dispose of leftover materials and containers according to label requirements.
- Read and follow all label directions and Material Safety Data Sheets that come with the pesticides.
- Avoid mixing pesticides and loading or rinsing sprayers next to wells, streams, sinkholes, drainage ditches, etc. Install anti-siphon devices on all hoses used to fill spray tanks.
- Avoid exposure to pesticides. Wear appropriate clothing, gloves, respirator, and footwear as specified on the product label. Wash affected area as soon as possible after possible exposure and prior to dinning or smoking.
- Check product label for reentry time. Follow restricted entry intervals.
- Triple –rinse empty containers is considered as a part of an integrated pest management system. Provide areas for emergency washing for those who might accidentally come in contact with chemicals.
- Use field scouting to determine when treatment threshold has been reached. Treatment thresholds for specific pests and crops are often available from the local Cooperative Extension Service office.
- Alternate pesticides of dissimilar mode of action or chemistry to reduce-target species resistance.
- Select methods of application that will result in the least potential for runoff and leaching.

Waste Utilization

Follow Nutrient Management Plan included in this document for the proper manure application rates, timing, and methods of application to provide nutrients to support crop production and to minimize the transport of nutrients to ground and surface water.

Commercial Fertilizer Application Equipment Calibration

The nitrogen applicator and the commercial broadcast spreaders will be set per the manufacturer's recommendations, then filled with a known amount and checked over a known acreage. Adjustments will be made to achieve the planned rates.

Animal Mortality Management
Inspect the facility to note any maintenance needs or indicators of operation problems.

Composting
The composted material will be utilized per the enclosed "Nutrient Management Plan.

Manure Spreader Calibration

There are several methods that can be used to calibrate the application rate of a manure spreader. It is desirable to repeat the calibration procedure 2 to 3 times and average the results to ensure a more accurate calibration. Calibration should take place annually or when manure is being applied from different sources or consistency.

Before calibrating a manure spreader, the spreader settings should be adjusted so that the spread is uniform. Most spreaders tend to deposit more manure near the spreader than at the edge of the spread pattern. Overlapping can make the overall application more uniform. Calibrating of application rates when overlapping, requires measuring the width of two spreads and dividing by two to get the effective spread width.

To calibrate the manure spreader use either of the following procedures.

Spreader Calibration - Method 1

Equipment: plastic sheet 6 x 6ft or 10 x 10ft, scale, bucket

1. Weigh sheet with bucket on the scale

2. Lay sheet in field in the path of manure spreader positioning it so the tractor will be at spreading speed before it reaches the sheet.

3. After spreading weigh sheet and manure in the bucket. Subtract weight of sheet plus bucket

4. Tons manure/acre = lb manure x 2 1.8, sheet size, sq ft

Spreader Calibration - Method 2

Equipment: yard stick, rope

1. Determine manure spreader capacity

2. Tie rope around tractor tire to determine distance traveled in one revolution

3. Spread manure load, counting wheel revolutions to determine the distance traveled

4. Measure width spreader is covering with manure, multiply by distance traveled